

*** NOTICES ***

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.**** shows the word which can not be translated.

3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1]A variable display device which carries out the variable display of two or more patterns required for a game, and a control means which controls a variable display of this variable display device, A game machine which a picture which possesses a displaying means which can display arbitrary pictures and is displayed on this displaying means is a display which needs the usual game by said variable display device for another secondary game, and is characterized by what it opts for corresponding to a display at the time of a stop of a variable display of said variable display device.

[Claim 2]A game machine starting said secondary game by said displaying means in the game machine according to claim 1 when a pattern specific at the time of a stop of said variable display is displayed on a position.

[Claim 3]In the game machine according to claim 1, said variable display device, A game machine, wherein it carries out two or more arranging in parallel of the fluctuation displaying part which carries out the variable display of said two or more patterns to a lengthwise direction to a transverse direction, and is constituted and said displaying means has a display screen which displays two or more grids corresponding to a pattern display position at the time of each stop of two or more of said fluctuation displaying parts.

[Claim 4]In the game machine according to claim 1, said variable display device, Carry out arranging in parallel to a transverse direction, and two or more displays which display said two or more patterns are constituted, and said displaying means, A game machine having a display screen which displays a grid constituted by making into a lot two or more grids by which arranging in parallel was carried out to a transverse direction corresponding to each position of two or more of said displays, and arranging two or more the groups to a lengthwise direction.

[Claim 5]In the game machine according to claim 3 or 4, said displaying means, Whenever a predetermined pattern appears after a start of said secondary game at the time of a stop of said variable display, A game machine characterized by what is not newly displayed when the same symbol image as a pattern predetermined [this] is displayed into a grid corresponding to a display position of a pattern predetermined [this] in said display screen and a symbol image is displayed in this grid.

[Claim 6]A game machine characterized by said predetermined pattern being a pattern beforehand defined among said two or more patterns in the game machine according to claim 5.

[Claim 7]A game machine giving a game person profits in the game machine according to claim 6 when said display screen fulfills a predetermined terminating condition.

[Claim 8]A game machine, wherein profits given to said game person change with kinds of said predetermined pattern in the game machine according to claim 7.

[Claim 9]A game machine characterized by said predetermined terminating condition being in a state where a grid in said display screen defined beforehand shows a predetermined symbol image in the game machine according to claim 7.

[Claim 10]A game machine after said display screen fulfills said predetermined terminating condition

in the game machine according to claim 7, wherein said control means performs reset processing which returns said display screen to an initial screen.

[Claim 11]A game machine eliminating all displays of a symbol image which buried a grid in said display screen by said reset processing in the game machine according to claim 10.

[Claim 12]A game machine characterized by displaying said symbol image on arbitrary grids after eliminating all displays of a symbol image which buried a grid in said display screen by said reset processing in the game machine according to claim 10.

[Translation done.]

*** NOTICES ***

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.**** shows the word which can not be translated.

3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the slot machine provided with the control means of the variable display device which carries out the variable display of two or more patterns required for a game, the microcomputer (henceforth a microcomputer) which controls this variable display, etc., a pachislot, and video poker and other game machines.

[0002]

[Description of the Prior Art]For example, the game machine called a slot machine or a pachislot, A variable display device mechanically constituted from carrying out the multiple arrays of the rotation reel which expressed two or more patterns (symbol) in the front display window, Or it has the variable display device electrically constituted from displaying the pattern on a reel on a screen, According to a game person's start operation, a control means drives a variable display device and rotates each reel, When stopping rotation of each reel one by one by a game person's stopping operation automatically after fixed time, By paying out game media, such as coin, when the pattern of each reel in which it appeared in the display window becomes a specific combination (winning-a-prize pattern), give a game person profits and mainly in a slot machine. When winning a prize is won in the internal processing of a game machine, and a revolving (when it specifically wins by the lottery by random number extraction with a microcomputer) reel stops, the winning-a-prize pattern is constituted so that it may gather on the effective line of a display.

[0003]However, if all the results (victory or defeat) of a game are determined by the internal processing of a game machine, a game person's skill is not reflected in a game result, but the volition which performs a game will decline and the problem of the game itself becoming monotonous and being easy to get bored with it will produce an expert.

[0004]Then, by providing a display device other than a variable display device that the problem of such a game should be canceled, It is possible to perform a game other than the usual game, and in JP,S61-113488,A. The slot bingo game machine of raising the speediness of the bingo game developed after that is proposed by using a slot game, using the digital display by a slot game as a selection number of a "bingo game."

[0005]

[Problem to be solved by the invention]However, in the game machine indicated by the above-mentioned gazette, the slot game is only used as an ancillary function of a bingo game, and the problem of the hypobulia in the conventional slot game or monotony is not solved. It limits that it is deficient in change since the display of a bingo game is a fixed display, and another game is performed, when a predetermined pattern gathers on the effective line of a variable display, and it cannot be improving the game nature of a game machine like a slot machine.

[0006]As the purpose of this invention can perform a secondary game other than the usual game by the variable display device which displays a pattern required for a game, it expands the width of a

game person's benefit acquisition, and. The secondary game is providing the game machine which usually relates a game and a secondary game by starting corresponding to the display at the time of the stop of the variable display by a variable display device, and raises the interest of the whole game further.

[0007]

[Means for solving problem]A variable display device which carries out the variable display of two or more patterns which need the 1st mode of this invention for a game, The picture which possesses the control means which controls the variable display of this variable display device, and the displaying means which can display arbitrary pictures, and is displayed on this displaying means, It is a display required for a secondary game other than the usual game by a variable display device, and is determined corresponding to the display at the time of the stop of the variable display of a variable display device.

[0008]When two or more predetermined patterns are displayed on all of specified positions along with a prescribed direction as an example of a secondary game on the display screen of a displaying means, the game that it becomes going up (role formation) and predetermined profits are given to a game person is preferred.

[0009]As a displaying means, the mechanical display device of rotation reel structure used on electric display devices, such as a liquid crystal, CRT, and LED, or the conventional slot machine can be used. Therefore, a pattern, a pattern, etc. which were drawn on the surface of a reel besides things displayed electrically, such as various characters, blink of a figure, an animation, or light, etc. which can be expressed with these display devices, are included in the picture displayed by a displaying means.

[0010]In the 2nd mode, when a pattern specific at the time of the stop of a variable display is displayed on a position, a secondary game is started.

[0011]A variable display device carries out two or more arranging in parallel of the fluctuation displaying part which carries out the moving display of two or more patterns to a lengthwise direction to a transverse direction, and comprises the 3rd mode, and a displaying means has a display screen which displays two or more grids corresponding to the pattern display position at the time of the stop of each fluctuation displaying part.

[0012]Carry out arranging in parallel to a transverse direction, and a variable display device comprises the 4th mode and two or more displays which display two or more patterns a displaying means, Two or more grids by which arranging in parallel was carried out to the transverse direction corresponding to each position of two or more displays are made into a lot, and it has a display screen which displays the grid constituted by arranging two or more the groups to a lengthwise direction.

[0013]In the 5th mode, whenever a predetermined pattern appears after the start of a secondary game at the time of the stop of a variable display, a displaying means, The same symbol image as that predetermined pattern is displayed into the grid corresponding to the deactivate indication position of the pattern concerned in the above-mentioned display screen, and the inside of this grid does not newly display, when the symbol image is already displayed.

[0014]In the 6th mode, the predetermined pattern should be defined in two or more patterns.

[0015]When the display screen which displays the symbol image same as mentioned above as a predetermined pattern fulfills a predetermined terminating condition by the 7th mode, suppose that profits are given to a game person.

[0016]In the 8th mode, the profits given to a game person shall change with kinds of the above-mentioned predetermined pattern.

[0017]In the 9th mode, the above-mentioned predetermined terminating condition is in the state with which the grid on a display screen defined beforehand was buried with the predetermined symbol image.

[0018]In the 10th mode, after the above-mentioned display screen fulfills a predetermined

terminating condition, reset processing which returns a display screen to an initial screen by a control means is performed. There is all the erasing processings which eliminate all the symbol images that buried the grid on a display screen, or initial condition setting processing which displays a symbol image at grids arbitrary after all the erasing processings in this reset processing.

[0019]

[Function and Effect]According to the 1st mode of this invention, at the time of a game, a control means controls the variable display of a variable display device. And with the pattern displayed at the time of the stop of a variable display, a game result is winning a prize or un-winning a prize (what is called "HAZURE"), and it appears. Although a display required for a secondary game other than the usual game by such a variable display device is performed in a displaying means, it opts for the display corresponding to the display at the time of the stop of a variable display. Therefore, for a game person, if in addition to the opportunity of a secondary game other than the game in a variable display device being given the result starts a secondary game even if the result of a game is usually HAZURE, benefit acquisition is expectable.

[0020]Since according to the 2nd mode a secondary game is started when a pattern specific at the time of the stop of a variable display is displayed on a position, a game person, When the usual game in a variable display device is predicted not to be in the state where profits can be gained, a secondary game is expected, and it comes to observe a variable display so that a specific pattern may stop. The frequency where a secondary game is performed can be easily adjusted with adjustment of the frequency of occurrence of a pattern specific also for the amusement center side.

[0021]According to the 3rd mode, a variable display device has two or more fluctuation displaying parts which carried out arranging in parallel to the transverse direction, and a displaying means constitutes the display screen which displays two or more grids corresponding to the pattern display position at the time of the stop of each fluctuation displaying part, and according to the 4th mode. Have a variable display device and two or more displays which carry out arranging in parallel of two or more patterns to a transverse direction, and display them a displaying means, Two or more grids by which arranging in parallel was carried out to the transverse direction corresponding to each position of two or more displays are made into a lot, and since the display screen which displays the grid which has arranged two or more the groups to the lengthwise direction is constituted, the secondary game corresponding to the game result in the variable display device becomes possible.

[0022]If a secondary game is started according to the 5th mode, whenever a predetermined pattern will appear at the time of the stop of a variable display, Since the symbol image of the same pattern as the predetermined pattern is displayed into the grid of the display screen corresponding to the deactivate indication position of the predetermined pattern in a variable display device, Apart from whether it is the result of usually reflecting the result of a game in a secondary game, and usually obtaining the result of a game for profits depended on a variable display device, or there is nothing, if the predetermined pattern is displayed, the secondary game in a displaying means will advance. For this reason, even if the result in a variable display device from which profits are not usually obtained by a game continues, the volition over a game person's game does not need to be spoiled as a whole by taking notice of the display of the predetermined pattern of making a secondary game starting. Since the appearance of a predetermined pattern is usually expected in a game if the state where a secondary game advances and profits are obtained becomes near, the hope for a stopped pattern increases.

[0023]According to the 6th mode, since it is decided out of two or more patterns in which it can usually set to a game, it is not fixed to one pattern but various patterns can be used for the pattern used for a secondary game. Thereby, change can be given to the contents of the game.

[0024]Since it will be in the state where a game person can get profits if the display screen which displays the symbol image as a predetermined pattern with same result of a secondary game according to the 7th mode fulfills a predetermined terminating condition, The display screen of a

secondary game becomes a thing relevant to the history of the predetermined pattern usually displayed at the time of the stop of the variable display in a game, and can define arbitrarily the winning-a-prize mode which gives a game person profits by setting up suitably the conditions ended in the middle of the history.

[0025] Since according to the 8th mode the profits from which a game person is obtained change with kinds of pattern when the display screen of a secondary game fulfills a predetermined terminating condition as mentioned above, A changeful secondary game can be provided and the distribution of profits by a secondary game can be easily adjusted with adjustment of the frequency of occurrence of each pattern.

[0026] According to the 9th mode, since the grid on a display screen defined beforehand is in the state buried with the predetermined symbol image, a predetermined terminating condition a game person, It can be discerned easily whether it is near from the position of the grid which shows the symbol image, or its number to the symbol image displaying condition (secondary game complete state) from which profits are obtained for a game person as a result of a secondary game.

[0027] According to the 10th mode, after the display screen of a secondary game fulfills a predetermined terminating condition, a control means performs reset processing which returns a display screen to an initial screen. In the case of all the erasing processings from which this reset processing eliminates all the pictures that buried the grid on a display screen, a game person understands that it is far until he will be in the above-mentioned secondary game complete state.

[0028] When the above-mentioned reset processing is the initial condition setting processing which displays a symbol image on arbitrary grids after all the erasing processings, For example, for a game person, when an initial screen is close to a secondary game complete state (high condition screen), since it is in an advantageous state, even if it is after expenditure of the profits by a secondary game was carried out, expectation can be maintained to the next benefit acquisition.

[0029] The initial screen set up by the above-mentioned reset processing is the difference between the kind of picture, the number, and a display position, Change can be given to advance and the result of a secondary game by setting beforehand as the high conditions understood whether it is close to a secondary game complete state, or far, the Nakajo affair, and a screen of low conditions, and adjusting the frequency of occurrence of a monograph affair.

[0030] In this invention, the frequency of occurrence of a pattern required for the secondary game displayed in the usual game at the time of a variable display is adjusted.

Therefore, the winning-a-prize probability and the distribution of profits of the whole game can be adjusted easily.

[0031]

[Mode for carrying out the invention] Drawing 1 is a perspective view showing the appearance of the slot machine of one embodiment of this invention. Although this slot machine 1 is a game machine which plays a game using coin, a medal, or a token as a game medium, below, it is explained as what uses coin.

[0032] The three display windows 3L horizontally located in a line, 3C, and 3R are provided in the transverse plane of the cabinet 2 which forms the whole slot machine 1, and various patterns (symbol) are displayed on the position of the center (on the winning line 14) of each display window, and either of up-and-down (refer to drawing 8 - drawing 10). These patterns are drawn on the surface of the sheet which forms the circumference surface of the display window 3L, 3C, and the three rotation reels 4L, 4C, and 4R arranged inside the cabinet 2 corresponding to 3R, as shown in drawing 2. In the example of drawing 2, 22 positions are set up in the length direction of the surface of each sheet, the symbol of "\$" which becomes odd positions with the below-mentioned "trigger symbol", "7" which constitutes the combination of a winning-a-prize pattern, and others is arranged, and even positions serve as a "blank" (blank).

[0033] The rotation reel which wound such a sheet around the circumference surface is a

mechanical variation displaying means of an example of the fluctuation displaying component which constitutes the variable display device in the game machine of this invention. There is an electric fluctuation displaying means which displays various patterns and pictures on the display screen of CRT or a liquid crystal as other examples of a fluctuation displaying component.

[0034]The start lever 5 for rotating the above-mentioned reel by a game person's operation is attached to the lateral portion of the above-mentioned cabinet 2 in the predetermined angle range, enabling free rotation.

[0035]In the center of a lower part of the display window of the front part of the cabinet 2, the liquid crystal display 6 as an example of the displaying means in this invention is arranged. This liquid crystal display 6 displays the display screen 6a which formed nine grids with the line in every direction, as shown in drawing 7. When each grid looks at the display window 3L provided in the upper part of the liquid crystal display 6, 3C, and 3R from a transverse plane, Corresponding to the display position of the pattern for secondary games (a trigger symbol or other specific symbols) displayed at the time of a stop of each reels 4L, 4C, and 4R, it is arranged so that the same symbol image as the pattern may be displayed.

[0036]By push button operation of 8 or 1 spin switch for putting said reel into operation by push button operation apart from operation of the coin slot 7 and the above-mentioned start lever 5 of putting in the coin (or medal) which is a game medium under the liquid crystal display 6. Among the coin by which the credit is carried out, only one sheet. The maximum BET switch 10 for betting the coin of the maximum number of sheets which can be risked on the game of 9 or 1 1-BET switch for risking on a game, and the C/P switch 11 which switches the credit/expenditure of the coin which the game person gained by push button operation are arranged. The coin holder part 13 grade which collects the coin paid out of the coin expenditure mouth 12 of the lower part of a transverse plane by the change of the C/P switch 11 in the lower part of the transverse plane of the cabinet 2 is arranged.

[0037]Drawing 3 shows the circuitry containing the control section which controls the game processing operation in the slot machine 1, and the peripheral equipment (actuator) electrically connected to this.

[0038]In this case, a control means makes the microcomputer 20 a main component, adds the circuit for a random number sampling to this, and is constituted. CPU21 which performs a control action according to the program to which the microcomputer 20 was set beforehand, The clock pulse generating circuits 24 and the counting-down circuit 25 which generate a reference clock pulse in CPU21, the random number generator 26 which generates the random number sampled, and the random number sampling circuit 27 are connected including ROM22 and RAM23 which are memory measures. As a means for a random number sampling, it may constitute so that a random number sampling may be performed within the microcomputer 20 (i.e., on the operation program of CPU21). In that case, it is also possible to be able to omit the random number generator 26 and the random number sampling circuit 27, or to leave as an object for backup of a random number sampling action.

[0039]Information and data required in order to perform processing which displays two or more display images of the after-mentioned besides the game control of a slot machine on the screen of the liquid crystal display 6 are stored in ROM22 of the microcomputer 20.

[0040]In the circuit of drawing 3, as main actuators by which operation is controlled by the control signal from the microcomputer 20, The stepping motors 15L, 15C, and 15R which rotate said reels 4L, 4C, and 4R, respectively, There are the hopper (the actuator for expenditure is included) 30 which stores the coin of a game medium, and the above-mentioned display screen, and it is connected to the outgoing end of CPU21 via the motor drive circuit 31, the hopper drive circuit 32, and the liquid crystal driving circuit 16, respectively. These drive circuits control operation of each actuator in response to control signals, such as a driving command outputted from CPU21.

[0041]As main input signal generating means which generate an input signal required since the

microcomputer 20 generates a control signal. The coin sensor 7S which detects the coin thrown into the coin slot 7, the start switch 5S which detects operation of the start lever 5, a maximum of [the spin switch 8, the 1-BET switch 9, and] — the reel position detecting circuit 34 which supplies the signal for detecting the position of each reel in response to the pulse signal from the reel rotation detection circuit of the BET switch 10, the C/P switch 11, and a variable display device to CPU21 — and, When the number-of-sheets data in which the enumerated data of the coin primary detecting element 35 which detects the coin paid out of the hopper 30 were specified is reached, the expenditure completion signal circuit 36 which supplies the signal for detecting the completion of coin expenditure to CPU21 is connected to the input edge of CPU21.

[0042]In the circuit of drawing 3, the random number generator 26 generates the random number belonging to a predetermined numeric value range, and the sampling circuit 27 performs a random number sampling to suitable timing, after the start lever 5 is operated. The sampled random number will generate a "winning-a-prize request signal", if it is judged whether it belongs to the prize area which is stored in the storage parts store in ROM22 and which was appointed beforehand and it belongs to the prize area.

[0043]After rotation of the reels 4L, 4C, and 4R is started, the number of the drive pulses supplied to each of the stepping motors 15L, 15C, and 15R is calculated, and the enumerated data are written in the prescribed area of RAM23. A reset pulse is obtained from the reels 4L, 4C, and 4R for every one revolution, and these pulses are inputted into CPU21 via the reel position detecting circuit 34. CPU21 clears to "0" the drive pulse enumerated data stored in RAM23 by the reset pulse obtained in this way. Thereby, in RAM23, the enumerated data corresponding to the rotary place of the one revolution within the limits are stored about each reels 4L, 4C, and 4R.

[0044]Since the rotary place and pattern of the above reels 4L, 4C, and 4R are matched, the "pattern table" is stored in ROM22. The "winning-a-prize pattern combination table" is stored in ROM22. On this winning-a-prize pattern combination table, the combination of the pattern which is winning a prize, the coin dividend number of sheets of winning a prize, and the winning-a-prize determination code showing that winning a prize are matched. A winning-a-prize pattern combination table is referred to, while controlling the reels 4L, 4C, and 4R, and when performing the winning-a-prize check after all the reel stops. The image table for enabling the display of the same picture as a display pattern according to the display position of the pattern in two or more display image data and reels 4L, 4C, and 4R for performing the 2nd below-mentioned game to the liquid crystal display 6 is stored in ROM22.

[0045]Drawing 4, drawing 5, and drawing 6 are the flow charts showing the procedure of the operation about a game (secondary game) performed independently with the usual game in the usual game (primary game) in the rotation reels 4L, 4C, and 4R, and the liquid crystal display 6. ST1 in a figure, ST2, and ... show the number of a procedure (step).

[0046]Although this processing is performed by CPU21 of the microcomputer 20 which is a game control means of the slot machine 1, When the displaying means like the liquid crystal display 6 itself is provided with CPU as a display control part, it may be made for the CPU to determine a display image according to the display command (for example, display command corresponding to the kind or HAZURE of winning a prize) from CPU21 as a game control means.

[0047]In drawing 4, the power supply of a game machine (slot machine 1) first by one. A game person does predetermined operation, namely, coin is thrown into the coin slot 7 (ST1). If the after-operation start lever 5 of the 1-BET switch 9 or the maximum BET switch 10 or the spin switch 8 is operated (ST2), the reels 4L, 4C, and 4R will rotate, and a variable display will be started (ST3). At this time, the judgment of winning a prize / not winning a prize, and a decision of a stopped pattern are made based on the random number extracted by random number sampling (ST4). And it judges whether the "winning-a-prize request signal" occurred (ST5), and stop control of the reels 4L, 4C, and 4R under rotation is performed according to the decided result. That is, if stop control is performed so that the pattern combination which is winning a prize may be displayed (ST6) and the

“winning-a-prize request signal” has not occurred when a “winning-a-prize request signal” occurs, stop control is performed so that the pattern combination used as “HAZURE” may be displayed (ST7).

[0048]In the above-mentioned processing, the variable display of ST3 is realized, when CPU21 sends a driving signal to the motor drive circuit 31, drives the stepping motors 15L, 15C, and 15R and rotates the reels 4L, 4C, and 4R. The winning-a-prize judging of ST4 is realized by judging whether the value of the random number which sampled the random number and was extracted from the random number generator 26 to proper timing belongs to the prize area appointed beforehand. And when judged with winning a prize, CPU21 sends the signal which carries out stop control of the reels 4L, 4C, and 4R to the pattern display position corresponding to the kind of winning a prize to the motor drive circuit 31. Thereby, stop control of ST6 or ST7 is realized. When it judges with winning a prize, CPU21 supplies the coin expenditure command signal corresponding to the kind of winning a prize to the hopper drive circuit 32, and pays the coin of a prescribed number out of the hopper 30 (ST8). The number of sheets of the coin which the coin primary detecting element 35 pays out of the hopper 30 in that case is calculated, when the number-of-sheets data in which the enumerated data were specified is reached, the expenditure completion signal circuit 36 pays out CPU21, and a completion signal is inputted. Thereby, CPU21 suspends the drive of the hopper 30 via the hopper drive circuit 32, and ends expenditure processing of coin.

[0049]Simultaneously with the above-mentioned winning-a-prize judging, CPU21 judges whether the secondary game in the liquid crystal display 6 is started (ST9). Since a secondary game is started here when the specified pattern (for example, “\$”) beforehand defined as a “trigger symbol” appears on the display window 3L, 3C, and the winning line 14 of the center of 3R, If the deactivate indication of the trigger symbol may already be carried out on the winning line 14, it will be judged with the secondary game being started.

[0050]When the secondary game is not started by the judgment of above-mentioned ST9, as shown in drawing 5, it is judged whether CPU21 carries out the deactivate indication of the trigger symbol on the display window 3L, 3C, and the winning line 14 of the center of 3R (ST10). This judgment is based on the stopped pattern determined by the winning-a-prize judging of said ST4. If it is “NO” as a result, it will return to the judgment of above-mentioned ST9. Therefore, a secondary game is not started until it carries out the deactivate indication of the trigger symbol on the winning line 14 as follows.

[0051]On the other hand, when it judges with carrying out the deactivate indication of the trigger symbol on the winning line 14 in ST10, Generate a “secondary game start request signal” (ST11), and carry out the deactivate indication of the trigger symbol (for example, “\$”) on the display window 3L, 3C, and one winning line 14 of the 3R, and. In the display screen 6a of the liquid crystal display 6, the same symbol image as the trigger symbol (or other specific symbols may be sufficient) is displayed on the grid of the position corresponding to the display position of the above-mentioned trigger symbol. This will be in the state where the secondary game in the liquid crystal display 6 was started (ST12). Then, it returns to the judgment of above-mentioned ST9.

[0052]When the secondary game is started by the judgment of above-mentioned ST9, as shown in drawing 6, it is judged whether the deactivate indication of the specified pattern (a trigger symbol or other specific symbols) is carried out to the position of the display window 3L, 3C, the center in 3R, and either of up-and-down (ST20). And if it is “NO”, it will return to the judgment of above-mentioned ST9.

[0053]On the other hand, when it judges with displaying a specified pattern in the display window 3L, 3C, and 3R in ST20, When the grid in the display screen 6a of the liquid crystal display 6 corresponding to the deactivate indication position of the specified pattern judges that it is not displaying the symbol image into it (it is blank) (ST21) and the symbol image is already displayed (it is not blank), it returns to the judgment of above-mentioned ST9. However, when a corresponding grid is blank and the deactivate indication of the specified pattern is carried out into the display

window 3L, 3C, and 3R, a symbol image is displayed on a corresponding grid (ST22).

[0054]Next, it is judged whether secondary game completion conditions were attained (ST23). As secondary game completion conditions, either or all of conditions of the following may be adopted, for example.

[0055]1. All of nine grids in the display screen 6a should be buried with a symbol image (complete state of a secondary game screen).

[0056]2. Into two or more specific grids, a specific symbol image should be displayed among nine grids.

[0057]3. A specific symbol image should be displayed into three grids located in a line with a specific line (transverse direction), a sequence (lengthwise direction), or an oblique direction among nine grids. When this condition is adopted, a secondary game serves as a "bingo game" and same game.

[0058]If it is "YES" in the judgment of above-mentioned ST23, a coin expenditure command signal will be supplied to the hopper drive circuit 32, and the coin of a specified number will be paid out of the hopper 30 (ST24). the number of sheets of the coin paid out here changes with conditions of above-mentioned 1. - 3., although it may fix to fixed numbers — making (when the conditions of for example, above-mentioned 1. are attained, it is the maximum number of sheets 100) — the interest of a secondary game is raised further.

[0059]If it is "NO" in the judgment of above-mentioned ST23, it will return to the judgment of ST9 of drawing 4.

[0060]The game performed to the next is equipped with CPU21 by performing reset processing about the display screen 6a after coin expenditure. That is, the "reset screen selection process" arbitrarily chosen out of two or more initial screens (reset screen) beforehand prepared as an initial state of the display screen 6a is performed (ST25), "reset processing" switched to the reset screen which chose the display screen 6a is performed (ST26), and it becomes game completion.

[0061]In the above-mentioned reset screen selection process, it is determined which reset screen is used among the reset screens beforehand defined based on the value of the random number extracted by random number sampling. The above-mentioned reset processing may provide a final controlling element separately so that a game person's manual selection can also be performed.

[0062]As the above-mentioned reset screen, as shown, for example in drawing 11, two or more kinds of screens, such as a (A) all clear screen, (B) high condition screen, (C) Nakajo affair screen, and (D) low condition screen, are prepared, and it is stored in ROM22. In this example, a (A) all clear screen is in the state which does not display a picture at all into the grid of the display screen 6a. (B) a high condition screen displays many same symbol images in the grid of the display screen 6a as a specified pattern, and all of the inside of nine grids are buried — until is in a near state. It is dramatically advantageous to a game person.

(C) The Nakajo affair screen is in a state further than a high condition screen until all of the inside of nine grids are buried with a symbol image. (D) A low condition screen is in a still further state until all of the inside of nine grids are buried with a symbol image, but it shows that it is more advantageous than the above-mentioned all clear screen.

[0063]Even after a game position is completed in a secondary game by displaying the reset screen of these versatility arbitrarily, in starting the following game, the game person can hold a hope so that an advantageous reset screen may be displayed.

[0064]Next, the display window 3L, 3C, the pattern displayed on 3R, and the symbol image displayed into the grid of the display screen 6a of the liquid crystal display 6 are explained as mentioned above.

[0065]The reels 4L, 4C, and 4R in three display windows are rotating, and drawing 7 shows the state where the symbol image is not displayed at all into the grid of the display screen 6a.

[0066]Drawing 8 shows a state when the three reels 4L, 4C, and 4R suspend rotation. Since the specified pattern "\$" stopped on the winning line 14 in the left-hand side display window 3L if the specified pattern "\$" was defined as a trigger symbol, for example at this time, The start of a

secondary game is started as mentioned above, and the symbol image of "\$" is displayed into the grid of the left middle of the display screen 6a.

[0067]After a secondary game start, drawing 9 shows the state where the specified pattern "\$" was displayed on the display windows 3L and 3R on either side, when the three reels 4L, 4C, and 4R suspend rotation. In detail, within the left-hand side display window 3L, it stopped to the upper position, and the specified pattern "\$" has stopped to the downward position within the right-hand side display window 3R. at this time, "\$" is already displayed into the grid of the left middle by the display screen 6a — in addition, the symbol image of "\$" is displayed into the grid corresponding to the display position of the specified pattern "\$" in the display windows 3L and 3R on either side. [0068]Drawing 10 shows the state where "\$" was again displayed on the middle position in the left-hand side display window 3L, when the three reels 4L, 4C, and 4R stop again after the display of drawing 9. Since "\$" is already displayed into the grid of the left middle by the display screen 6a at this time, that display does not change.

[0069]Thus, in the display screen 6a, a specified pattern "\$" is displayed in the display window 3L, 3C, and 3R, and whenever a deactivate indication is carried out, a symbol image "\$" is displayed into the grid corresponding to the display position. In particular, in the display screen of drawing 10, if the terminating condition of a secondary game is made into a "bingo game" and a symbol image "\$" will be displayed into the grid of middle, it will become going up of a "bingo game" and the coin of a specified number will pay out a game person.

[0070]Here, a specified pattern like "\$" shown in drawing 8 – drawing 10 as a pattern for secondary games may not be prepared separately, but a secondary game may be performed using symbols, such as "7", so that it may be shown in the pattern currently used for the conventional game, for example, drawing 12.

[0071]A secondary game may not be performed only in one kind of pattern, but it may carry out using several kinds of patterns. For example, four kinds of patterns, "\$" [(PT1)] "7" (PT2), "3BAR" (PT3), and "2BAR" (PT4), are beforehand defined as a pattern for secondary games, and it is made for distribution of profits to change with kinds of pattern, as shown in drawing 13. That is, in "\$" (PT1), in the case of 100 sheets and "7" (PT2), it can set up, and, in 50 sheets and "3BAR" (PT3), in the case of ten sheets and "2BAR" (PT4), the number of sheets of the coin paid out when the grid of the display screen 6a is buried with a symbol image can be set up like five sheets.

[0072]Drawing 14 and drawing 15 show the operation processing procedure at the time of using such two or more patterns. This procedure is performed as different processing in part from drawing 5 and drawing 6 after the judgment of whether the secondary game is started in ST9 of drawing 3 mentioned above.

[0073]When specifically judged with the secondary game not being started by the above-mentioned ST9, As shown in drawing 14, first on the display window 3L, 3C, and the winning line 14 of the center of 3R, It judges whether the specified pattern (for example, pattern "\$") beforehand determined as a trigger symbol of a secondary game start is displayed (ST30), and the selection process of the pattern used by a secondary game is performed at the time of "YES" (ST31). Here, the pattern used by a secondary game is a pattern defined as a pattern beforehand for secondary games like "\$" [(PT1)] "7" (PT2), "3BAR" (PT3), and "2BAR" (PT4) which were shown in above-mentioned drawing 13, and the pattern used out of this is determined. If the pattern used by a secondary game is determined, will generate a "secondary game start request signal" (ST32), will carry out the deactivate indication of the trigger symbol on the display window 3L, 3C, and one winning line 14 of the 3R, and. The same symbol image as the trigger symbol is displayed on the grid corresponding to the display position of the trigger symbol on the display screen 6a of the liquid crystal display 6. This will be in the state where the secondary game in the liquid crystal display 6 was started (ST33). Then, it returns to the judgment of ST9 of drawing 4.

[0074]On the other hand, when judged with the secondary game being started by the above-

mentioned ST9, as shown in drawing 15, in ST40, it is judged whether the display window 3L, 3C, and the pattern for secondary games chosen as 3R by the above-mentioned ST31 are displayed. And if it is "NO", it will return to the judgment of above-mentioned ST9.

[0075]On the other hand, when it judges with displaying the pattern for secondary games in the display window 3L, 3C, and 3R in ST40, In the grid display in the display screen 6a of the liquid crystal display 6 corresponding to the pattern, When it judges that it is that the grid corresponding to the deactivate indication position of a pattern does not show the symbol image (it is blank) (ST41) and the symbol image is already displayed (it is not blank), it returns to the judgment of above-mentioned ST9. However, when a corresponding grid is blank and the deactivate indication of the pattern for secondary games is carried out into the display window 3L, 3C, and 3R, a symbol image is displayed on the corresponding grid of a position (ST42).

[0076]Next, it is judged whether secondary game completion conditions were attained (ST43). Let secondary game completion conditions be conditions like said 1. - 3.

[0077]If it is "YES" in the judgment of above-mentioned ST43, a coin expenditure command signal will be supplied to the hopper drive circuit 32, and the coin of a specified number will be paid out of the hopper 30 (ST44). The number of sheets of the coin paid out here shall be changed by the selected kind of pattern for secondary games and the above-mentioned secondary game completion conditions.

[0078]If it is "NO" in the judgment of above-mentioned ST43, it will return to the judgment of ST9 of drawing 4.

[0079]The game performed to the next is equipped with CPU21 by performing reset processing about the display screen 6a after coin expenditure. That is, the "reset screen selection process" arbitrarily chosen out of two or more "reset screens" beforehand prepared as an initial state of the display screen 6a is performed (ST45), "reset processing" switched to the reset screen which chose the display screen 6a is performed (ST46), and it becomes game completion.

[0080]A reset screen is determined as (D) low condition the above-mentioned drawing 11 (A) all clear screen, (B) high condition screen, (C) Nakajo affair screen, or a screen etc. according to the kind of selected pattern for secondary games.

[0081]When performing a secondary game using several kinds of patterns as mentioned above, even if it is after a secondary game start, it may be made to perform the pattern selection process for secondary games (the same as that of the processing in ST31 of drawing 14) before the processing in ST40 of drawing 15 for every game. In this case, interest is drawn by the game person about what kind of symbol image occupies more grid displays in the display screen 6a, and he comes to observe till the end of a secondary game.

[0082]When making several kinds of patterns into the pattern for secondary games as mentioned above, it may be made to go on the secondary game to two or more patterns (trigger symbol) by providing two or more display screens (it is a grid display (PTs 1-4) for four sorts of every different patterns of drawing 13) simultaneously.

[0083]In this case, a grid will be buried, if it is not necessary to enable the start of a secondary game and a predetermined pattern is anyhow displayed, after a trigger symbol stops on a winning line. For the third party who has not played the game by this, if the symbol image on a grid is buried and a state is seen, it will become quite obvious how much [after] the expectation degree through which it hits and passes is.

[0084]Although the above-mentioned embodiment is a slot machine, this invention is applicable also to the video poker (game machine) which performs a poker game with a variable display device.

Drawing 16 - drawing 18 show the example of the game display screen.

[0085]Drawing 16 shows five kinds of game cards to five card displays () by which arranging in parallel was carried out to the transverse direction on the video screen 37 of a variable display device - (). And the liquid crystal display 6 of an example of the displaying means in this invention is arranged, and the display screen 6b which formed 25 grids with the line in every direction is

displayed on the video screen 37 bottom. The display portion of one row wide which consists of these five grids supports card display () - (), and displays the same symbol image as that pattern corresponding to the display position of the game card which has a pattern for secondary games (a trigger symbol or other specific symbols). Two or more groups of the horizontal single tier which consists of these five grids are arranged perpendicularly, and the display screen 6b is formed by 5 sets ((a) - (e)) of grids.

[0086]In drawing 16, the game card which has a pattern for secondary games is not displayed on card display () - () (the game card for the usual poker games is displayed), therefore nothing is displayed on the display screen 6b.

[0087]In drawing 17, the game card which has a pattern for secondary games (here a "star" pattern) is displayed on card display (), on the display screen 6b, corresponding to this, it sees from a transverse plane and the same symbol image "star" as the pattern for secondary games is displayed from the left at the 2nd grid.

[0088]If the pattern for secondary games is again displayed in a subsequent game, the grid which displays the symbol image corresponding to this will shift to the group (b) under one (the 2nd line). In drawing 18, the game card which has a pattern for secondary games "star" is displayed on card display () and (), corresponding to this display, it sees from the transverse plane of the group (b) of the 2nd line on the display screen 6b, and the symbol image "star" is displayed on the 3rd and the 5th grid from the left.

[0089]Then, it may be made to perform a secondary game from the group (a) of the 1st line again, distinguishing winning a prize by the displaying condition of the display screen 6b at the time of displaying a symbol image "star" on the group (e) of the 5th line, and ending a game, or leaving the display image on the display screen 6b after that.

[0090]If the terminating condition of the secondary game in the case of the former is made into a "bingo game" here, if five symbol images "star" are equal to any one row of length, width, or the oblique direction, it will become going up of a "bingo game", and the coin of a specified number will be paid out to a game person, and reset processing will be performed like the above-mentioned slot machine.

[0091]In the case of the latter, even if the game card which has a pattern "star" again is displayed on the card display corresponding to the grid which already shows the symbol image "star" like the above-mentioned slot machine, the grid will be indicated to winning a prize, if it does not change but all the grids are buried, a secondary game is ended, and reset processing is performed. Of course, it may use together with a "bingo game."

[0092]The patterns for the usual poker games (spade of cards, etc.) may be used for the pattern of a secondary game.

[0093]As mentioned above, since a displaying condition when a variable display is turned off is always reflected as it is, the secondary game in the display screen provided apart from the usual game by a variable display. The interest as the whole game increases, and the secondary game in a display screen becomes possible [also going on with the history display of the pattern displayed in the past in the variable display], and can know whether even game completion is near. Since it understands whether a game is completed at a glance if which pattern is displayed, a game can be attended with very high hope and feeling of tension.

[Translation done.]

*** NOTICES ***

JPO and INPIT are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.*** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

TECHNICAL FIELD

[Field of the Invention]This invention relates to the slot machine provided with the control means of the variable display device which carries out the variable display of two or more patterns required for a game, the microcomputer (henceforth a microcomputer) which controls this variable display, etc., a pachislot, and video poker and other game machines.

[Translation done.]

*** NOTICES ***

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.**** shows the word which can not be translated.

3.In the drawings, any words are not translated.

PRIOR ART

[Description of the Prior Art]For example, the game machine called a slot machine or a pachislot, A variable display device mechanically constituted from carrying out the multiple arrays of the rotation reel which expressed two or more patterns (symbol) in the front display window, Or it has the variable display device electrically constituted from displaying the pattern on a reel on a screen, According to a game person's start operation, a control means drives a variable display device and rotates each reel, When stopping rotation of each reel one by one by a game person's stopping operation automatically after fixed time, By paying out game media, such as coin, when the pattern of each reel in which it appeared in the display window becomes a specific combination (winning-a-prize pattern), give a game person profits and mainly in a slot machine. When winning a prize is won in the internal processing of a game machine, and a revolving (when it specifically wins by the lottery by random number extraction with a microcomputer) reel stops, the winning-a-prize pattern is constituted so that it may gather on the effective line of a display.

[0003]However, if all the results (victory or defeat) of a game are determined by the internal processing of a game machine, a game person's skill is not reflected in a game result, but the volition which performs a game will decline and the problem of the game itself becoming monotonous and being easy to get bored with it will produce an expert.

[0004]Then, by providing a display device other than a variable display device that the problem of such a game should be canceled, It is possible to perform a game other than the usual game, and in JP,S61-113488,A. The slot bingo game machine of raising the speediness of the bingo game developed after that is proposed by using a slot game, using the digital display by a slot game as a selection number of a "bingo game."

[Translation done.]

*** NOTICES ***

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.*** shows the word which can not be translated.

3.In the drawings, any words are not translated.

EFFECT OF THE INVENTION

[Function and Effect]According to the 1st mode of this invention, at the time of a game, a control means controls the variable display of a variable display device. And with the pattern displayed at the time of the stop of a variable display, a game result is winning a prize or un-winning a prize (what is called "HAZURE"), and it appears. Although a display required for a secondary game other than the usual game by such a variable display device is performed in a displaying means, it opts for the display corresponding to the display at the time of the stop of a variable display. Therefore, for a game person, if in addition to the opportunity of a secondary game other than the game in a variable display device being given the result starts a secondary game even if the result of a game is usually HAZURE, benefit acquisition is expectable.

[0020]Since according to the 2nd mode a secondary game is started when a pattern specific at the time of the stop of a variable display is displayed on a position, a game person, When the usual game in a variable display device is predicted not to be in the state where profits can be gained, a secondary game is expected, and it comes to observe a variable display so that a specific pattern may stop. The frequency where a secondary game is performed can be easily adjusted with adjustment of the frequency of occurrence of a pattern specific also for the amusement center side.

[0021]According to the 3rd mode, a variable display device has two or more fluctuation displaying parts which carried out arranging in parallel to the transverse direction, and a displaying means constitutes the display screen which displays two or more grids corresponding to the pattern display position at the time of the stop of each fluctuation displaying part, and according to the 4th mode. Have a variable display device and two or more displays which carry out arranging in parallel of two or more patterns to a transverse direction, and display them a displaying means, Two or more grids by which arranging in parallel was carried out to the transverse direction corresponding to each position of two or more displays are made into a lot, and since the display screen which displays the grid which has arranged two or more the groups to the lengthwise direction is constituted, the secondary game corresponding to the game result in the variable display device becomes possible.

[0022]If a secondary game is started according to the 5th mode, whenever a predetermined pattern will appear at the time of the stop of a variable display, Since the symbol image of the same pattern as the predetermined pattern is displayed into the grid of the display screen corresponding to the deactivate indication position of the predetermined pattern in a variable display device, Apart from whether it is the result of usually reflecting the result of a game in a secondary game, and usually obtaining the result of a game for profits depended on a variable display device, or there is nothing, if the predetermined pattern is displayed, the secondary game in a displaying means will advance. For this reason, even if the result in a variable display device from which profits are not usually obtained by a game continues, the volition over a game person's game does not need to be spoiled as a whole by taking notice of the display of the predetermined pattern of making a secondary game starting. Since the appearance of a predetermined pattern is usually expected in a game if the state

where a secondary game advances and profits are obtained becomes near, the hope for a stopped pattern increases.

[0023]According to the 6th mode, since it is decided out of two or more patterns in which it can usually set to a game, it is not fixed to one pattern but various patterns can be used for the pattern used for a secondary game. Thereby, change can be given to the contents of the game.

[0024]Since it will be in the state where a game person can get profits if the display screen which displays the symbol image as a predetermined pattern with same result of a secondary game according to the 7th mode fulfills a predetermined terminating condition, The display screen of a secondary game becomes a thing relevant to the history of the predetermined pattern usually displayed at the time of the stop of the variable display in a game, and can define arbitrarily the winning-a-prize mode which gives a game person profits by setting up suitably the conditions ended in the middle of the history.

[0025]Since according to the 8th mode the profits from which a game person is obtained change with kinds of pattern when the display screen of a secondary game fulfills a predetermined terminating condition as mentioned above, A changeful secondary game can be provided and the distribution of profits by a secondary game can be easily adjusted with adjustment of the frequency of occurrence of each pattern.

[0026]According to the 9th mode, since the grid on a display screen defined beforehand is in the state buried with the predetermined symbol image, a predetermined terminating condition a game person, It can be discerned easily whether it is near from the position of the grid which shows the symbol image, or its number to the symbol image displaying condition (secondary game complete state) from which profits are obtained for a game person as a result of a secondary game.

[0027]According to the 10th mode, after the display screen of a secondary game fulfills a predetermined terminating condition, a control means performs reset processing which returns a display screen to an initial screen. In the case of all the erasing processings from which this reset processing eliminates all the pictures that buried the grid on a display screen, a game person understands that it is far until he will be in the above-mentioned secondary game complete state.

[0028]When the above-mentioned reset processing is the initial condition setting processing which displays a symbol image on arbitrary grids after all the erasing processings, For example, for a game person, when an initial screen is close to a secondary game complete state (high condition screen), since it is in an advantageous state, even if it is after expenditure of the profits by a secondary game was carried out, expectation can be maintained to the next benefit acquisition.

[0029]The initial screen set up by the above-mentioned reset processing is the difference between the kind of picture, the number, and a display position, Change can be given to advance and the result of a secondary game by setting beforehand as the high conditions understood whether it is close to a secondary game complete state, or far, the Nakajo affair, and a screen of low conditions, and adjusting the frequency of occurrence of a monograph affair.

[0030]In this invention, the frequency of occurrence of a pattern required for the secondary game displayed in the usual game at the time of a variable display is adjusted.

Therefore, the winning-a-prize probability and the distribution of profits of the whole game can be adjusted easily.

[0031]

[Mode for carrying out the invention]Drawing 1 is a perspective view showing the appearance of the slot machine of one embodiment of this invention. Although this slot machine 1 is a game machine which plays a game using coin, a medal, or a token as a game medium, below, it is explained as what uses coin.

[0032]The three display windows 3L horizontally located in a line, 3C, and 3R are provided in the transverse plane of the cabinet 2 which forms the whole slot machine 1, and various patterns (symbol) are displayed on the position of the center (on the winning line 14) of each display window,

and either of up-and-down (refer to drawing 8 – drawing 10). These patterns are drawn on the surface of the sheet which forms the circumference surface of the display window 3L, 3C, and the three rotation reels 4L, 4C, and 4R arranged inside the cabinet 2 corresponding to 3R, as shown in drawing 2. In the example of drawing 2, 22 positions are set up in the length direction of the surface of each sheet, the symbol of “\$” which becomes odd positions with the below-mentioned “trigger symbol”, “7” which constitutes the combination of a winning-a-prize pattern, and others is arranged, and even positions serve as a “blank” (blank).

[0033]The rotation reel which wound such a sheet around the circumference surface is a mechanical variation displaying means of an example of the fluctuation displaying component which constitutes the variable display device in the game machine of this invention. There is an electric fluctuation displaying means which displays various patterns and pictures on the display screen of CRT or a liquid crystal as other examples of a fluctuation displaying component.

[0034]The start lever 5 for rotating the above-mentioned reel by a game person's operation is attached to the lateral portion of the above-mentioned cabinet 2 in the predetermined angle range, enabling free rotation.

[0035]In the center of a lower part of the display window of the front part of the cabinet 2, the liquid crystal display 6 as an example of the displaying means in this invention is arranged. This liquid crystal display 6 displays the display screen 6a which formed nine grids with the line in every direction, as shown in drawing 7. When each grid looks at the display window 3L provided in the upper part of the liquid crystal display 6, 3C, and 3R from a transverse plane, Corresponding to the display position of the pattern for secondary games (a trigger symbol or other specific symbols) displayed at the time of a stop of each reels 4L, 4C, and 4R, it is arranged so that the same symbol image as the pattern may be displayed.

[0036]By push button operation of 8 or 1 spin switch for putting said reel into operation by push button operation apart from operation of the coin slot 7 and the above-mentioned start lever 5 of putting in the coin (or medal) which is a game medium under the liquid crystal display 6. Among the coin by which the credit is carried out, only one sheet. The maximum BET switch 10 for betting the coin of the maximum number of sheets which can be risked on the game of 9 or 1 1-BET switch for risking on a game, and the C/P switch 11 which switches the credit/expenditure of the coin which the game person gained by push button operation are arranged. The coin holder part 13 grade which collects the coin paid out of the coin expenditure mouth 12 of the lower part of a transverse plane by the change of the C/P switch 11 in the lower part of the transverse plane of the cabinet 2 is arranged.

[0037]Drawing 3 shows the circuitry containing the control section which controls the game processing operation in the slot machine 1, and the peripheral equipment (actuator) electrically connected to this.

[0038]In this case, a control means makes the microcomputer 20 a main component, adds the circuit for a random number sampling to this, and is constituted. CPU21 which performs a control action according to the program to which the microcomputer 20 was set beforehand. The clock pulse generating circuits 24 and the counting-down circuit 25 which generate a reference clock pulse in CPU21, the random number generator 26 which generates the random number sampled, and the random number sampling circuit 27 are connected including ROM22 and RAM23 which are memory measures. As a means for a random number sampling, it may constitute so that a random number sampling may be performed within the microcomputer 20 (i.e., on the operation program of CPU21). In that case, it is also possible to be able to omit the random number generator 26 and the random number sampling circuit 27, or to leave as an object for backup of a random number sampling action.

[0039]Information and data required in order to perform processing which displays two or more display images of the after-mentioned besides the game control of a slot machine on the screen of the liquid crystal display 6 are stored in ROM22 of the microcomputer 20.

[0040]In the circuit of drawing 3, as main actuators by which operation is controlled by the control signal from the microcomputer 20, The stepping motors 15L, 15C, and 15R which rotate said reels 4L, 4C, and 4R, respectively, There are the hopper (the actuator for expenditure is included) 30 which stores the coin of a game medium, and the above-mentioned display screen, and it is connected to the outgoing end of CPU21 via the motor drive circuit 31, the hopper drive circuit 32, and the liquid crystal driving circuit 16, respectively. These drive circuits control operation of each actuator in response to control signals, such as a driving command outputted from CPU21.

[0041]As main input signal generating means which generate an input signal required since the microcomputer 20 generates a control signal, The coin sensor 7S which detects the coin thrown into the coin slot 7, the start switch 5S which detects operation of the start lever 5, a maximum of [the spin switch 8, the 1-BET switch 9, and] — the reel position detecting circuit 34 which supplies the signal for detecting the position of each reel in response to the pulse signal from the reel rotation detection circuit of the BET switch 10, the C/P switch 11, and a variable display device to CPU21 — and, When the number-of-sheets data in which the enumerated data of the coin primary detecting element 35 which detects the coin paid out of the hopper 30 were specified is reached, the expenditure completion signal circuit 36 which supplies the signal for detecting the completion of coin expenditure to CPU21 is connected to the input edge of CPU21.

[0042]In the circuit of drawing 3, the random number generator 26 generates the random number belonging to a predetermined numeric value range, and the sampling circuit 27 performs a random number sampling to suitable timing, after the start lever 5 is operated. The sampled random number will generate a "winning-a-prize request signal", if it is judged whether it belongs to the prize area which is stored in the storage parts store in ROM22 and which was appointed beforehand and it belongs to the prize area.

[0043]After rotation of the reels 4L, 4C, and 4R is started, the number of the drive pulses supplied to each of the stepping motors 15L, 15C, and 15R is calculated, and the enumerated data are written in the prescribed area of RAM23. A reset pulse is obtained from the reels 4L, 4C, and 4R for every one revolution, and these pulses are inputted into CPU21 via the reel position detecting circuit 34. CPU21 clears to "0" the drive pulse enumerated data stored in RAM23 by the reset pulse obtained in this way. Thereby, in RAM23, the enumerated data corresponding to the rotary place of the one revolution within the limits are stored about each reels 4L, 4C, and 4R.

[0044]Since the rotary place and pattern of the above reels 4L, 4C, and 4R are matched, the "pattern table" is stored in ROM22. The "winning-a-prize pattern combination table" is stored in ROM22. On this winning-a-prize pattern combination table, the combination of the pattern which is winning a prize, the coin dividend number of sheets of winning a prize, and the winning-a-prize determination code showing that winning a prize are matched. A winning-a-prize pattern combination table is referred to, while controlling the reels 4L, 4C, and 4R, and when performing the winning-a-prize check after all the reel stops. The image table for enabling the display of the same picture as a display pattern according to the display position of the pattern in two or more display image data and reels 4L, 4C, and 4R for performing the 2nd below-mentioned game to the liquid crystal display 6 is stored in ROM22.

[0045]Drawing 4, drawing 5, and drawing 6 are the flow charts showing the procedure of the operation about a game (secondary game) performed independently with the usual game in the usual game (primary game) in the rotation reels 4L, 4C, and 4R, and the liquid crystal display 6. ST1 in a figure, ST2, and .. show the number of a procedure (step).

[0046]Although this processing is performed by CPU21 of the microcomputer 20 which is a game control means of the slot machine 1, When the displaying means like the liquid crystal display 6 itself is provided with CPU as a display control part, it may be made for the CPU to determine a display image according to the display command (for example, display command corresponding to the kind or HAZURE of winning a prize) from CPU21 as a game control means.

[0047]In drawing 4, the power supply of a game machine (slot machine 1) first by one. A game

person does predetermined operation, namely, coin is thrown into the coin slot 7 (ST1). If the after-operation start lever 5 of the 1-BET switch 9 or the maximum BET switch 10 or the spin switch 8 is operated (ST2), the reels 4L, 4C, and 4R will rotate, and a variable display will be started (ST3). At this time, the judgment of winning a prize / not winning a prize, and a decision of a stopped pattern are made based on the random number extracted by random number sampling (ST4). And it judges whether the "winning-a-prize request signal" occurred (ST5), and stop control of the reels 4L, 4C, and 4R under rotation is performed according to the decided result. That is, if stop control is performed so that the pattern combination which is winning a prize may be displayed (ST6) and the "winning-a-prize request signal" has not occurred when a "winning-a-prize request signal" occurs, stop control is performed so that the pattern combination used as "HAZURE" may be displayed (ST7).

[0048]In the above-mentioned processing, the variable display of ST3 is realized, when CPU21 sends a driving signal to the motor drive circuit 31, drives the stepping motors 15L, 15C, and 15R and rotates the reels 4L, 4C, and 4R. The winning-a-prize judging of ST4 is realized by judging whether the value of the random number which sampled the random number and was extracted from the random number generator 26 to proper timing belongs to the prize area appointed beforehand. And when judged with winning a prize, CPU21 sends the signal which carries out stop control of the reels 4L, 4C, and 4R to the pattern display position corresponding to the kind of winning a prize to the motor drive circuit 31. Thereby, stop control of ST6 or ST7 is realized. When it judges with winning a prize, CPU21 supplies the coin expenditure command signal corresponding to the kind of winning a prize to the hopper drive circuit 32, and pays the coin of a prescribed number out of the hopper 30 (ST8). The number of sheets of the coin which the coin primary detecting element 35 pays out of the hopper 30 in that case is calculated, when the number-of-sheets data in which the enumerated data were specified is reached, the expenditure completion signal circuit 36 pays out CPU21, and a completion signal is inputted. Thereby, CPU21 suspends the drive of the hopper 30 via the hopper drive circuit 32, and ends expenditure processing of coin.

[0049]Simultaneously with the above-mentioned winning-a-prize judging, CPU21 judges whether the secondary game in the liquid crystal display 6 is started (ST9). Since a secondary game is started here when the specified pattern (for example, "\$") beforehand defined as a "trigger symbol" appears on the display window 3L, 3C, and the winning line 14 of the center of 3R, If the deactivate indication of the trigger symbol may already be carried out on the winning line 14, it will be judged with the secondary game being started.

[0050]When the secondary game is not started by the judgment of above-mentioned ST9, as shown in drawing 5, it is judged whether CPU21 carries out the deactivate indication of the trigger symbol on the display window 3L, 3C, and the winning line 14 of the center of 3R (ST10). This judgment is based on the stopped pattern determined by the winning-a-prize judging of said ST4. If it is "NO" as a result, it will return to the judgment of above-mentioned ST9. Therefore, a secondary game is not started until it carries out the deactivate indication of the trigger symbol on the winning line 14 as follows.

[0051]On the other hand, when it judges with carrying out the deactivate indication of the trigger symbol on the winning line 14 in ST10, Generate a "secondary game start request signal" (ST11), and carry out the deactivate indication of the trigger symbol (for example, "\$") on the display window 3L, 3C, and one winning line 14 of the 3R, and. In the display screen 6a of the liquid crystal display 6, the same symbol image as the trigger symbol (or other specific symbols may be sufficient) is displayed on the grid of the position corresponding to the display position of the above-mentioned trigger symbol. This will be in the state where the secondary game in the liquid crystal display 6 was started (ST12). Then, it returns to the judgment of above-mentioned ST9.

[0052]When the secondary game is started by the judgment of above-mentioned ST9, as shown in drawing 6, it is judged whether the deactivate indication of the specified pattern (a trigger symbol or other specific symbols) is carried out to the position of the display window 3L, 3C, the center in 3R,

and either of up-and-down (ST20). And if it is "NO", it will return to the judgment of above-mentioned ST9.

[0053]On the other hand, when it judges with displaying a specified pattern in the display window 3L, 3C, and 3R in ST20, When the grid in the display screen 6a of the liquid crystal display 6 corresponding to the deactivate indication position of the specified pattern judges that it is not displaying the symbol image into it (it is blank) (ST21) and the symbol image is already displayed (it is not blank), it returns to the judgment of above-mentioned ST9. However, when a corresponding grid is blank and the deactivate indication of the specified pattern is carried out into the display window 3L, 3C, and 3R, a symbol image is displayed on a corresponding grid (ST22).

[0054]Next, it is judged whether secondary game completion conditions were attained (ST23). As secondary game completion conditions, either or all of conditions of the following may be adopted, for example.

[0055]1. All of nine grids in the display screen 6a should be buried with a symbol image (complete state of a secondary game screen).

[0056]2. Into two or more specific grids, a specific symbol image should be displayed among nine grids.

[0057]3. A specific symbol image should be displayed into three grids located in a line with a specific line (transverse direction), a sequence (lengthwise direction), or an oblique direction among nine grids. When this condition is adopted, a secondary game serves as a "bingo game" and same game.

[0058]If it is "YES" in the judgment of above-mentioned ST23, a coin expenditure command signal will be supplied to the hopper drive circuit 32, and the coin of a specified number will be paid out of the hopper 30 (ST24). the number of sheets of the coin paid out here changes with conditions of above-mentioned 1. - 3., although it may fix to fixed numbers — making (when the conditions of for example, above-mentioned 1. are attained, it is the maximum number of sheets 100) — the interest of a secondary game is raised further.

[0059]If it is "NO" in the judgment of above-mentioned ST23, it will return to the judgment of ST9 of drawing 4.

[0060]The game performed to the next is equipped with CPU21 by performing reset processing about the display screen 6a after coin expenditure. That is, the "reset screen selection process" arbitrarily chosen out of two or more initial screens (reset screen) beforehand prepared as an initial state of the display screen 6a is performed (ST25), "reset processing" switched to the reset screen which chose the display screen 6a is performed (ST26), and it becomes game completion.

[0061]In the above-mentioned reset screen selection process, it is determined which reset screen is used among the reset screens beforehand defined based on the value of the random number extracted by random number sampling. The above-mentioned reset processing may provide a final controlling element separately so that a game person's manual selection can also be performed.

[0062]As the above-mentioned reset screen, as shown, for example in drawing 11, two or more kinds of screens, such as a (A) all clear screen, (B) high condition screen, (C) Nakajo affair screen, and (D) low condition screen, are prepared, and it is stored in ROM22. In this example, a (A) all clear screen is in the state which does not display a picture at all into the grid of the display screen 6a. (B) a high condition screen displays many same symbol images in the grid of the display screen 6a as a specified pattern, and all of the inside of nine grids are buried — until is in a near state. It is dramatically advantageous to a game person.

(C) The Nakajo affair screen is in a state further than a high condition screen until all of the inside of nine grids are buried with a symbol image. (D) A low condition screen is in a still further state until all of the inside of nine grids are buried with a symbol image, but it shows that it is more advantageous than the above-mentioned all clear screen.

[0063]Even after a game position is completed in a secondary game by displaying the reset screen of these versatility arbitrarily, in starting the following game, the game person can hold a hope so that an advantageous reset screen may be displayed.

[0064]Next, the display window 3L, 3C, the pattern displayed on 3R, and the symbol image displayed into the grid of the display screen 6a of the liquid crystal display 6 are explained as mentioned above.

[0065]The reels 4L, 4C, and 4R in three display windows are rotating, and drawing 7 shows the state where the symbol image is not displayed at all into the grid of the display screen 6a.

[0066]Drawing 8 shows a state when the three reels 4L, 4C, and 4R suspend rotation. Since the specified pattern "\$" stopped on the winning line 14 in the left-hand side display window 3L if the specified pattern "\$" was defined as a trigger symbol, for example at this time, The start of a secondary game is started as mentioned above, and the symbol image of "\$" is displayed into the grid of the left middle of the display screen 6a.

[0067]After a secondary game start, drawing 9 shows the state where the specified pattern "\$" was displayed on the display windows 3L and 3R on either side, when the three reels 4L, 4C, and 4R suspend rotation. In detail, within the left-hand side display window 3L, it stopped to the upper position, and the specified pattern "\$" has stopped to the downward position within the right-hand side display window 3R. at this time, "\$" is already displayed into the grid of the left middle by the display screen 6a — in addition, the symbol image of "\$" is displayed into the grid corresponding to the display position of the specified pattern "\$" in the display windows 3L and 3R on either side.

[0068]Drawing 10 shows the state where "\$" was again displayed on the middle position in the left-hand side display window 3L, when the three reels 4L, 4C, and 4R stop again after the display of drawing 9. Since "\$" is already displayed into the grid of the left middle by the display screen 6a at this time, that display does not change.

[0069]Thus, in the display screen 6a, a specified pattern "\$" is displayed in the display window 3L, 3C, and 3R, and whenever a deactivate indication is carried out, a symbol image "\$" is displayed into the grid corresponding to the display position. In particular, in the display screen of drawing 10, if the terminating condition of a secondary game is made into a "bingo game" and a symbol image "\$" will be displayed into the grid of middle, it will become going up of a "bingo game" and the coin of a specified number will pay out a game person.

[0070]Here, a specified pattern like "\$" shown in drawing 8 – drawing 10 as a pattern for secondary games may not be prepared separately, but a secondary game may be performed using symbols, such as "7", so that it may be shown in the pattern currently used for the conventional game, for example, drawing 12.

[0071]A secondary game may not be performed only in one kind of pattern, but it may carry out using several kinds of patterns. For example, four kinds of patterns, "\$" [(PT1)] "7" (PT2), "3BAR" (PT3), and "2BAR" (PT4), are beforehand defined as a pattern for secondary games, and it is made for distribution of profits to change with kinds of pattern, as shown in drawing 13. That is, in "\$" (PT1), in the case of 100 sheets and "7" (PT2), it can set up, and, in 50 sheets and "3BAR" (PT3), in the case of ten sheets and "2BAR" (PT4), the number of sheets of the coin paid out when the grid of the display screen 6a is buried with a symbol image can be set up like five sheets.

[0072]Drawing 14 and drawing 15 show the operation processing procedure at the time of using such two or more patterns. This procedure is performed as different processing in part from drawing 5 and drawing 6 after the judgment of whether the secondary game is started in ST9 of drawing 3 mentioned above.

[0073]When specifically judged with the secondary game not being started by the above-mentioned ST9, As shown in drawing 14, first on the display window 3L, 3C, and the winning line 14 of the center of 3R, It judges whether the specified pattern (for example, pattern "\$") beforehand determined as a trigger symbol of a secondary game start is displayed (ST30), and the selection process of the pattern used by a secondary game is performed at the time of "YES" (ST31). Here, the pattern used by a secondary game is a pattern defined as a pattern beforehand for secondary games like "\$" [(PT1)] "7" (PT2), "3BAR" (PT3), and "2BAR" (PT4) which were shown in above—

mentioned drawing 13, and the pattern used out of this is determined. If the pattern used by a secondary game is determined, will generate a "secondary game start request signal" (ST32), will carry out the deactivate indication of the trigger symbol on the display window 3L, 3C, and one winning line 14 of the 3R, and. The same symbol image as the trigger symbol is displayed on the grid corresponding to the display position of the trigger symbol on the display screen 6a of the liquid crystal display 6. This will be in the state where the secondary game in the liquid crystal display 6 was started (ST33). Then, it returns to the judgment of ST9 of drawing 4.

[0074]On the other hand, when judged with the secondary game being started by the above-mentioned ST9, as shown in drawing 15, in ST40, it is judged whether the display window 3L, 3C, and the pattern for secondary games chosen as 3R by the above-mentioned ST31 are displayed. And if it is "NO", it will return to the judgment of above-mentioned ST9.

[0075]On the other hand, when it judges with displaying the pattern for secondary games in the display window 3L, 3C, and 3R in ST40, In the grid display in the display screen 6a of the liquid crystal display 6 corresponding to the pattern, When it judges that it is that the grid corresponding to the deactivate indication position of a pattern does not show the symbol image (it is blank) (ST41) and the symbol image is already displayed (it is not blank), it returns to the judgment of above-mentioned ST9. However, when a corresponding grid is blank and the deactivate indication of the pattern for secondary games is carried out into the display window 3L, 3C, and 3R, a symbol image is displayed on the corresponding grid of a position (ST42).

[0076]Next, it is judged whether secondary game completion conditions were attained (ST43). Let secondary game completion conditions be conditions like said 1. - 3.

[0077]If it is "YES" in the judgment of above-mentioned ST43, a coin expenditure command signal will be supplied to the hopper drive circuit 32, and the coin of a specified number will be paid out of the hopper 30 (ST44). The number of sheets of the coin paid out here shall be changed by the selected kind of pattern for secondary games and the above-mentioned secondary game completion conditions.

[0078]If it is "NO" in the judgment of above-mentioned ST43, it will return to the judgment of ST9 of drawing 4.

[0079]The game performed to the next is equipped with CPU21 by performing reset processing about the display screen 6a after coin expenditure. That is, the "reset screen selection process" arbitrarily chosen out of two or more "reset screens" beforehand prepared as an initial state of the display screen 6a is performed (ST45), "reset processing" switched to the reset screen which chose the display screen 6a is performed (ST46), and it becomes game completion.

[0080]A reset screen is determined as (D) low condition the above-mentioned drawing 11 (A) all clear screen, (B) high condition screen, (C) Nakajo affair screen, or a screen etc. according to the kind of selected pattern for secondary games.

[0081]When performing a secondary game using several kinds of patterns as mentioned above, even if it is after a secondary game start, it may be made to perform the pattern selection process for secondary games (the same as that of the processing in ST31 of drawing 14) before the processing in ST40 of drawing 15 for every game. In this case, interest is drawn by the game person about what kind of symbol image occupies more grid displays in the display screen 6a, and he comes to observe till the end of a secondary game.

[0082]When making several kinds of patterns into the pattern for secondary games as mentioned above, it may be made to go on the secondary game to two or more patterns (trigger symbol) by providing two or more display screens (it is a grid display (PTs 1-4) for four sorts of every different patterns of drawing 13) simultaneously.

[0083]In this case, a grid will be buried, if it is not necessary to enable the start of a secondary game and a predetermined pattern is anyhow displayed, after a trigger symbol stops on a winning line. For the third party who has not played the game by this, if the symbol image on a grid is buried and a state is seen, it will become quite obvious how much [after] the expectation degree through

which it hits and passes is.

[0084]Although the above-mentioned embodiment is a slot machine, this invention is applicable also to the video poker (game machine) which performs a poker game with a variable display device.

Drawing 16 - drawing 18 show the example of the game display screen.

[0085]Drawing 16 shows five kinds of game cards to five card displays () by which arranging in parallel was carried out to the transverse direction on the video screen 37 of a variable display device - (). And the liquid crystal display 6 of an example of the displaying means in this invention is arranged, and the display screen 6b which formed 25 grids with the line in every direction is displayed on the video screen 37 bottom. The display portion of one row wide which consists of these five grids supports card display () - (), and displays the same symbol image as that pattern corresponding to the display position of the game card which has a pattern for secondary games (a trigger symbol or other specific symbols). Two or more groups of the horizontal single tier which consists of these five grids are arranged perpendicularly, and the display screen 6b is formed by 5 sets ((a) - (e)) of grids.

[0086]In drawing 16, the game card which has a pattern for secondary games is not displayed on card display () - () (the game card for the usual poker games is displayed), therefore nothing is displayed on the display screen 6b.

[0087]In drawing 17, the game card which has a pattern for secondary games (here a "star" pattern) is displayed on card display (), on the display screen 6b, corresponding to this, it sees from a transverse plane and the same symbol image "star" as the pattern for secondary games is displayed from the left at the 2nd grid.

[0088]If the pattern for secondary games is again displayed in a subsequent game, the grid which displays the symbol image corresponding to this will shift to the group (b) under one (the 2nd line). In drawing 18, the game card which has a pattern for secondary games "star" is displayed on card display () and (), corresponding to this display, it sees from the transverse plane of the group (b) of the 2nd line on the display screen 6b, and the symbol image "star" is displayed on the 3rd and the 5th grid from the left.

[0089]Then, it may be made to perform a secondary game from the group (a) of the 1st line again, distinguishing winning a prize by the displaying condition of the display screen 6b at the time of displaying a symbol image "star" on the group (e) of the 5th line, and ending a game, or leaving the display image on the display screen 6b after that.

[0090]If the terminating condition of the secondary game in the case of the former is made into a "bingo game" here, if five symbol images "star" are equal to any one row of length, width, or the oblique direction, it will become going up of a "bingo game", and the coin of a specified number will be paid out to a game person, and reset processing will be performed like the above-mentioned slot machine.

[0091]In the case of the latter, even if the game card which has a pattern "star" again is displayed on the card display corresponding to the grid which already shows the symbol image "star" like the above-mentioned slot machine, the grid will be indicated to winning a prize, if it does not change but all the grids are buried, a secondary game is ended, and reset processing is performed. Of course, it may use together with a "bingo game."

[0092]The patterns for the usual poker games (spade of cards, etc.) may be used for the pattern of a secondary game.

[0093]As mentioned above, since a displaying condition when a variable display is turned off is always reflected as it is, the secondary game in the display screen provided apart from the usual game by a variable display. The interest as the whole game increases, and the secondary game in a display screen becomes possible [also going on with the history display of the pattern displayed in the past in the variable display], and can know whether even game completion is near. Since it understands whether a game is completed at a glance if which pattern is displayed, a game can be attended with very high hope and feeling of tension.

[Translation done.]

*** NOTICES ***

JPO and INPIT are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.*** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

TECHNICAL PROBLEM

[Problem to be solved by the invention]However, in the game machine indicated by the above-mentioned gazette, the slot game is only used as an ancillary function of a bingo game, and the problem of the hypobulia in the conventional slot game or monotony is not solved. It limits that it is deficient in change since the display of a bingo game is a fixed display, and another game is performed, when a predetermined pattern gathers on the effective line of a variable display, and it cannot be improving the game nature of a game machine like a slot machine.

[0006]As the purpose of this invention can perform a secondary game other than the usual game by the variable display device which displays a pattern required for a game, it expands the width of a game person's benefit acquisition, and. The secondary game is providing the game machine which usually relates a game and a secondary game by starting corresponding to the display at the time of the stop of the variable display by a variable display device, and raises the interest of the whole game further.

[Translation done.]

*** NOTICES ***

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.*** shows the word which can not be translated.

3.In the drawings, any words are not translated.

MEANS

[Means for solving problem]A variable display device which carries out the variable display of two or more patterns which need the 1st mode of this invention for a game, The picture which possesses the control means which controls the variable display of this variable display device, and the displaying means which can display arbitrary pictures, and is displayed on this displaying means, It is a display required for a secondary game other than the usual game by a variable display device, and is determined corresponding to the display at the time of the stop of the variable display of a variable display device.

[0008]When two or more predetermined patterns are displayed on all of specified positions along with a prescribed direction as an example of a secondary game on the display screen of a displaying means, the game that it becomes going up (role formation) and predetermined profits are given to a game person is preferred.

[0009]As a displaying means, the mechanical display device of rotation reel structure used on electric display devices, such as a liquid crystal, CRT, and LED, or the conventional slot machine can be used. Therefore, a pattern, a pattern, etc. which were drawn on the surface of a reel besides things displayed electrically, such as various characters, blink of a figure, an animation, or light, etc. which can be expressed with these display devices, are included in the picture displayed by a displaying means.

[0010]In the 2nd mode, when a pattern specific at the time of the stop of a variable display is displayed on a position, a secondary game is started.

[0011]A variable display device carries out two or more arranging in parallel of the fluctuation displaying part which carries out the moving display of two or more patterns to a lengthwise direction to a transverse direction, and comprises the 3rd mode, and a displaying means has a display screen which displays two or more grids corresponding to the pattern display position at the time of the stop of each fluctuation displaying part.

[0012]Carry out arranging in parallel to a transverse direction, and a variable display device comprises the 4th mode and two or more displays which display two or more patterns a displaying means. Two or more grids by which arranging in parallel was carried out to the transverse direction corresponding to each position of two or more displays are made into a lot, and it has a display screen which displays the grid constituted by arranging two or more the groups to a lengthwise direction.

[0013]In the 5th mode, whenever a predetermined pattern appears after the start of a secondary game at the time of the stop of a variable display, a displaying means, The same symbol image as that predetermined pattern is displayed into the grid corresponding to the deactivate indication position of the pattern concerned in the above-mentioned display screen, and the inside of this grid does not newly display, when the symbol image is already displayed.

[0014]In the 6th mode, the predetermined pattern should be defined in two or more patterns.

[0015]When the display screen which displays the symbol image same as mentioned above as a

predetermined pattern fulfills a predetermined terminating condition by the 7th mode, suppose that profits are given to a game person.

[0016]In the 8th mode, the profits given to a game person shall change with kinds of the above-mentioned predetermined pattern.

[0017]In the 9th mode, the above-mentioned predetermined terminating condition is in the state with which the grid on a display screen defined beforehand was buried with the predetermined symbol image.

[0018]In the 10th mode, after the above-mentioned display screen fulfills a predetermined terminating condition, reset processing which returns a display screen to an initial screen by a control means is performed. There is all the erasing processings which eliminate all the symbol images that buried the grid on a display screen, or initial condition setting processing which displays a symbol image at grids arbitrary after all the erasing processings in this reset processing.

[Translation done.]

*** NOTICES ***

JPO and INPIT are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.*** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]The perspective view showing the appearance of the slot machine of the embodiment of this invention.

[Drawing 2]The figure showing the example of the pattern arrangement on the reel sheet arranged in the circumference surface of the rotation reel which constitutes a variable display device.

[Drawing 3]The block diagram showing the circuitry used for the slot machine of drawing 1.

[Drawing 4]The flow chart which shows a part of control action of an embodiment.

[Drawing 5]The flow chart following drawing 4 which shows a control action in case the secondary game is not started.

[Drawing 6]The flow chart following drawing 4 which shows a control action in case the secondary game is started.

[Drawing 7]The figure showing the display symbol image of the displaying condition after a variable display start, and a liquid crystal display.

[Drawing 8]The figure showing the display symbol image of the displaying condition at the time of a variable display stop, and a liquid crystal display.

[Drawing 9]The figure showing the place which displayed the symbol image "\$" on the displaying condition at the time of the variable display stop after a secondary game start, and the display screen of the liquid crystal display.

[Drawing 10]It is a figure showing the place which displayed the symbol image "\$" at position with another drawing 9 in the displaying condition at the time of the variable display stop after a secondary game start, and the display screen of a liquid crystal display.

[Drawing 11]The figure showing the example of the reset screen in the display screen of a liquid crystal display.

[Drawing 12]The figure showing the place which displayed the symbol image "7" on the displaying condition at the time of the variable display stop after a secondary game start, and the display screen of the liquid crystal display.

[Drawing 13]The figure showing the display example by each symbol image in the display screen of a liquid crystal display when performing a secondary game using two or more kinds of symbol images.

[Drawing 14]The flow chart following drawing 4 which shows a control action when the secondary game is not started when performing a secondary game using two or more kinds of symbol images.

[Drawing 15]The flow chart following drawing 4 which shows the control action after a secondary game start when performing a secondary game using two or more kinds of symbol images.

[Drawing 16]The figure showing the variable display device and liquid crystal display in video poker of another embodiment.

[Drawing 17]The figure showing the place which displayed the symbol image "star" on the displaying condition at the time of the variable display stop after the secondary game start in video poker, and the display screen of the liquid crystal display.

[Drawing 18] It is a figure showing the place which displayed the symbol image "star" at position with another drawing 17 in the displaying condition at the time of the variable display stop after the secondary game start in video poker, and the display screen of a liquid crystal display.

[Explanations of letters or numerals]

1 — A slot machine, 2 — A cabinet, 3L, 3C, 3R — Display window, 4L, 4C, 4R — A reel, 5 — A start lever, 6 — Liquid crystal display, 7 [— Maximum BET switch,] — A coin slot, 8 — A spin switch, 9 — 1-BET switches 9 and 10 11 — A C/P switch, 12 — A coin expenditure mouth, 13 — Coin holder part, 14 — A winning line, 15L, 15C, 15R — Stepping motor, 16 [— ROMs 22 and 23 / — RAM,] — A liquid crystal driving circuit, 20 — A microcomputer, 21 — CPU, 22 24 [— A random number sampling circuit 30 / — A hopper, 31 / — A motor drive circuit, 32 / — A hopper drive circuit, 34 / — A reel position detecting circuit, 35 / — A coin primary detecting element, 36 / — An expenditure completion signal circuit, 37 / — Video screen.] — Clock pulse generating circuits, 25 — A counting-down circuit, 26 A random number generator, 27

[Translation done.]

*** NOTICES ***

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.*** shows the word which can not be translated.

3.In the drawings, any words are not translated.

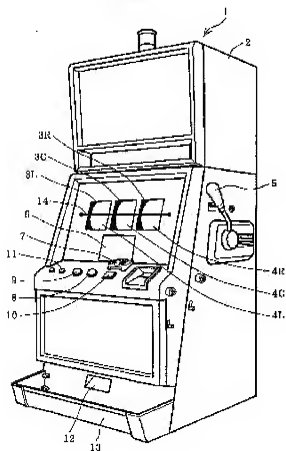
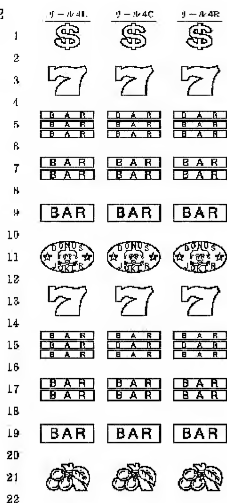
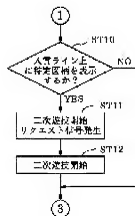
DRAWINGS**[Drawing 1]****FIG. 1****[Drawing 2]**

FIG. 2



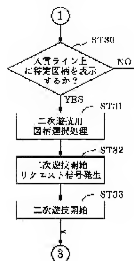
[Drawing 5]

FIG. 5



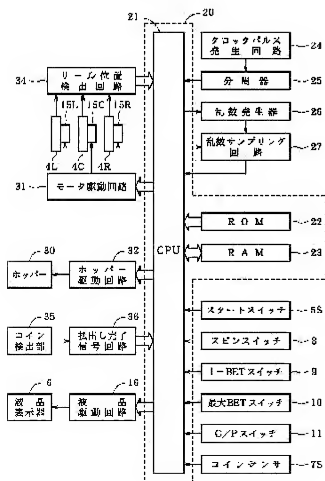
[Drawing 14]

FIG. 14



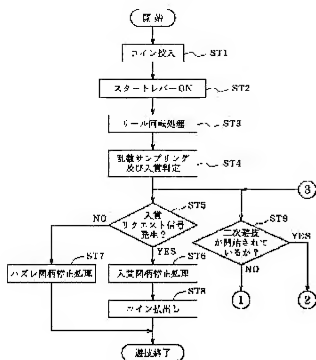
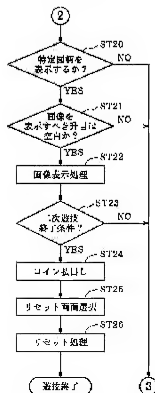
[Drawing 3]

FIG. 3



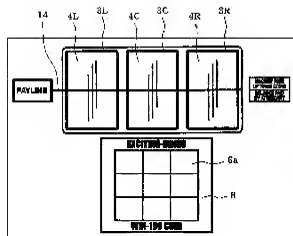
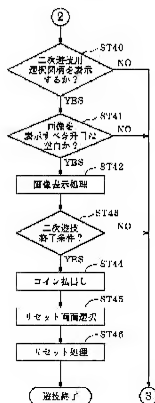
[Drawing 4]

FIG. 4

[Drawing 6]
FIG. 6

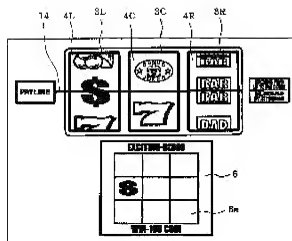
[Drawing 7]

FIG. 7

[Drawing 15]
FIG. 15

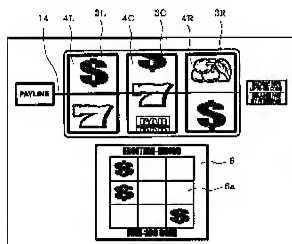
[Drawing 8]

FIG. 8



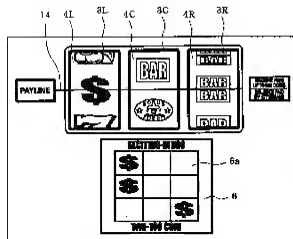
[Drawing 9]

FIG. 9



[Drawing 10]

FIG. 10

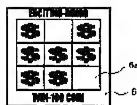
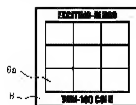


[Drawing 11]

FIG. 11

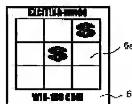
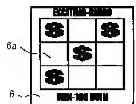
(A) オールクリア画面

(B) "高" 条件画面



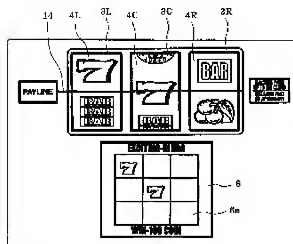
(C) "中" 条件画面

(D) "低" 条件画面



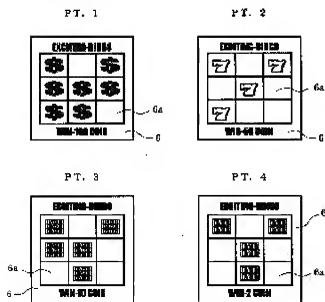
[Drawing 12]

FIG. 12



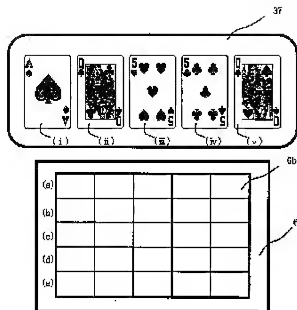
[Drawing 13]

FIG. 13



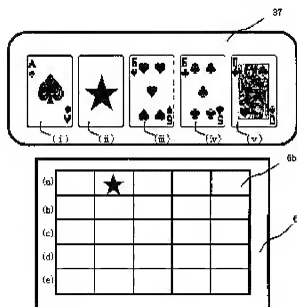
[Drawing 16]

FIG. 16



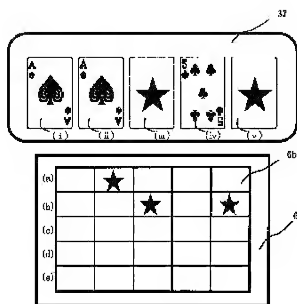
[Drawing 17]

FIG. 17



[Drawing 18]

FIG. 18



[Translation done.]

*** NOTICES ***

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.*** shows the word which can not be translated.

3.In the drawings, any words are not translated.

WRITTEN AMENDMENT

[Written Amendment]

[Filing date]Heisei 11(1999) March 1

[Amendment 1]

[Document to be Amended]Description

[Item(s) to be Amended]0085

[Method of Amendment]Change

[Proposed Amendment]

[0085]Drawing 16 shows five kinds of game cards to five card display (i)s by which arranging in parallel was carried out to the transverse direction on the video screen 37 of a variable display device - (v). And the liquid crystal display 6 of an example of the displaying means in this invention is arranged, and the display screen 6b which formed 25 grids with the line in every direction is displayed on the video screen 37 bottom. The display portion of one row of styles which consist of these five grids supports card display (i) - (v), and displays the same symbol image as that pattern corresponding to the display position of the game card which has a pattern for secondary games (a trigger symbol or other specific symbols). Two or more groups of the horizontal single tier which consists of these five grids are arranged perpendicularly, and the display screen 6b is formed by 5 sets ((a) - (e)) of grids.

[Amendment 2]

[Document to be Amended]Description

[Item(s) to be Amended]0086

[Method of Amendment]Change

[Proposed Amendment]

[0086]In drawing 16, the game card which has a pattern for secondary games is not displayed on card display (i) - (v) (the game card for the usual poker games is displayed), therefore nothing is displayed on the display screen 6b.

[Amendment 3]

[Document to be Amended]Description

[Item(s) to be Amended]0087

[Method of Amendment]Change

[Proposed Amendment]

[0087]In drawing 17, the game card which has a pattern for secondary games (here a "star" pattern) is displayed on card display (ii), on the display screen 6b, corresponding to this, it sees from a transverse plane and the same symbol image "star" as the pattern for secondary games is displayed from the left at the 2nd grid.

[Amendment 4]

[Document to be Amended]Description

[Item(s) to be Amended]0088

[Method of Amendment]Change

[Proposed Amendment]

[0088]If the pattern for secondary games is again displayed in a subsequent game, the grid which displays the symbol image corresponding to this will shift to the group (b) under one (the 2nd line). In drawing 18, the game card which has a pattern for secondary games "star" is displayed on card display (iii) and (v), corresponding to this display, it sees from the transverse plane of the group (b) of the 2nd line on the display screen 6b, and the symbol image "star" is displayed on the 3rd and the 5th grid from the left.

[Translation done.]

(19)日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11)特許出願公開番号

特開平11-253610

(43)公開日 平成11年(1999) 9月21日

(51)Int.Cl.⁶

A 6 3 F 5/04

識別記号

5 1 6

F I

A 6 3 F 5/04

5 1 6 F

5 1 6 D

審査請求 未請求 請求項の数12 O L (全 15 頁)

(21)出願番号 特願平10-64911

(22)出願日 平成10年(1998) 3月16日

(71)出願人 538098526

アルゼ株式会社

東京都江東区有明 3丁目1番地25

(72)発明者 大澤 章

東京都江東区有明 3-1-25

(74)代理人 弁理士 堀 進 (外1名)

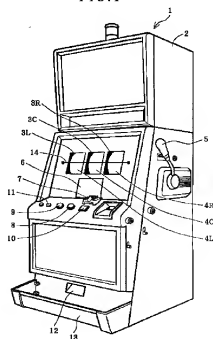
(54)【発明の名称】 遊技機

(57)【要約】

【課題】 遊技に必要な図柄を表示する可変表示装置による通常の遊技とは別の二次遊技を行えるようにして遊技者の利益獲得の幅を広げると共に、二次遊技は可変表示装置による可変表示の停止時の表示に対応して開始することで通常遊技と二次遊技を関連させ、遊技全体の興趣を一層高める遊技機を提供する。

【解決手段】 遊技機1は、遊技に必要な複数の図柄を可変表示する可変表示装置4L、4C、4Rと、可変表示装置の可変表示を制御する制御手段と、任意の画像を表示可能な表示器6とを具備する。この表示器6に表示される画像は、可変表示装置4L、4C、4Rによる通常の遊技とは別の二次遊技に必要な表示であり、可変表示装置4L、4C、4Rの可変表示の停止時の表示に対応して決定される。

FIG. 1



【特許請求の範囲】

【請求項1】遊技に必要な複数の図柄を可変表示する可変表示装置と、該可変表示装置の可変表示を制御する制御手段と、任意の画像を表示可能な表示手段とを具備し、該表示手段に表示される画像は、前記可変表示装置による通常の遊技とは別の二次遊技に必要な表示であって、前記可変表示装置の可変表示の停止時の表示に対応して決定されることを特徴とする遊技機。

【請求項2】請求項1記載の遊技機において、前記可変表示の停止時に特定の図柄が所定の位置に表示された時、前記表示手段により前記二次遊技を開始することを特徴とする遊技機。

【請求項3】請求項1記載の遊技機において、前記可変表示装置は、前記複数の図柄を縦方向に可変表示する変動表示部を横方向に複数並列配置して構成され、前記表示手段は、前記複数の変動表示部の各々の停止時の図柄表示位置に対応した複数の升目を表示する表示画面を有することを特徴とする遊技機。

【請求項4】請求項1記載の遊技機において、前記可変表示装置は、前記複数の図柄を表示する複数の表示部を横方向に並列配置して構成され、前記表示手段は、前記複数の表示部の各々の位置に対応して横方向に並列配置された複数の升目を一組とし、その組を縦方向に複数配置して構成された升目を表示する表示画面を有することを特徴とする遊技機。

【請求項5】請求項3又は4記載の遊技機において、前記表示手段は、前記二次遊技の開始後、前記可変表示の停止時に所定の図柄が出現する毎に、該所定の図柄と同じシンボル画像を、前記表示画面における該所定の図柄の表示位置に対応した升目の中に表示し、該升目の中にシンボル画像が表示されている時は新たに表示しないことを特徴とする遊技機。

【請求項6】請求項5記載の遊技機において、前記所定の図柄は前記複数の図柄のうち予め定めた図柄であることを特徴とする遊技機。

【請求項7】請求項6記載の遊技機において、前記表示画面が所定の終了条件を満たした時、遊技者に利益を与えることを特徴とする遊技機。

【請求項8】請求項7記載の遊技機において、前記遊技者に与えられる利益は前記所定の図柄の種類によって異なることを特徴とする遊技機。

【請求項9】請求項7記載の遊技機において、前記所定の終了条件は、前記表示画面内の予め定めた升目が所定のシンボル画像を表示している状態であることを特徴とする遊技機。

【請求項10】請求項7記載の遊技機において、前記表示画面が前記所定の終了条件を満たした後、前記制御手段は前記表示画面を初期画面に戻しリセット処理を行うことを特徴とする遊技機。

【請求項11】請求項10記載の遊技機において、前記

リセット処理により、前記表示画面内の升目を埋めたシンボル画像の表示を全て消去することを特徴とする遊技機。

【請求項12】請求項10記載の遊技機において、前記リセット処理により、前記表示画面内の升目を埋めたシンボル画像の表示を全て消去した後、任意の升目に前記シンボル画像を表示することを特徴とする遊技機。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、遊技に必要な複数の図柄を可変表示する可変表示装置と、この可変表示を制御するマイクロコンピュータ（以下、マイコンという）等の制御手段とを備えたスロットマシン、パチスロ、ビデオポーカーその他の遊技機に関する。

【0002】

【従来の技術】例えば、スロットマシン或いはパチスロと称される遊技機は、正面の表示窓内に複数の図柄（シンボル）を表わした回転リールを複数配列することで機械的に構成した可変表示装置、或いはリール上の図柄を画面に表示することで電気的に構成した可変表示装置を有し、遊技者のスタート操作に応じて、制御手段が可変表示装置を駆動して各リールを回転させ、一定時間後自動的に或いは遊技者の停止操作により各リールの回転を順次停止させた時、表示窓内に現れた各リールの図柄が特定の組み合わせ（入賞図柄）になった場合にコイン等の遊技媒体を払い出すことで遊技者に利益を付与するもので、主にスロットマシンでは、遊技機の内部処理で入賞に当たった場合（具体的に、マイコンでの乱数抽出による抽選で当選したとき）には、回転しているリールが停止した時に入賞図柄を表示部の有効ライン上に揃うように構成している。

【0003】しかし、遊技機の内部処理によって遊技の結果（勝敗）がすべて決定されてしまうと、遊技結果に遊技者の技量が反映せず、熟練者は遊技を行う意欲が減退し、遊技自体も単調になって飽きられやすいという問題が生ずる。

【0004】そこで、このような遊技の問題点を解消すべく、可変表示装置とは別の表示装置を設けることにより、通常の遊技とは別の遊技を行うことが考えられ、特開昭61-113488号公報では、スロットゲームによる数字表示を「ビンゴゲーム」の選択数字として用い、スロットゲームを用いることにより、その後に展開するビンゴゲームのスピード感を高めるというスロット・ビンゴゲーム機が提案されている。

【0005】

【発明が解決しようとする課題】しかしながら、上記公報に開示されたゲーム機においては、単にビンゴゲームの補助的機能としてスロットゲームを用いているだけであり、従来のスロットゲームにおける意欲減退や単調さの問題を解決するものではない。また、ビンゴゲームの

表示が固定表示のため変化に乏しく、別遊技が行われるのは可変表示部の有効ライン上に所定の図柄が揃った場合に限定しており、スロットマシンのような遊技機の遊技性を高めることはできない。

【0006】本発明の目的は、遊技に必要な図柄を表示する可変表示装置による通常の遊技とは別の二次遊技を行うようにして遊技者の利益獲得の幅を広げると共に、その二次遊技は可変表示装置による可変表示の停止時の表示に対応して開始することで通常遊技と二次遊技を関連させ、遊技全体の興趣を一層高める遊技機を提供することである。

【0007】

【課題を解決するための手段】本発明の第1の態様は、遊技に必要な複数の図柄を可変表示する可変表示装置と、該可変表示装置の可変表示を制御する制御手段と、任意の画像を表示可能な表示手段とを具備し、該表示手段に表示される画像は、可変表示装置による通常の遊技とは別の二次遊技に必要な表示であって、可変表示装置の可変表示の停止時の表示に対応して決定されることを特徴とする。

【0008】二次遊技の例としては、表示手段の表示画面上で所定の図柄が複数個、所定方向に並ぶか或いは所定位置の全部に表示された時、上り（役成立）となって、所定の利益が遊技者に与えられるようなゲームが好適である。

【0009】表示手段としては、液晶、CRT、LEDなどの電氣的表示装置、或いは従来のスロットマシン等で用いられている回転リール構造の機械的表示装置を使用できる。従って、表示手段で表示される画像には、これらの表示装置で表現できる種々の文字や図形、動画或いは光の点滅等、電氣的に表示されるもののほか、リールの表面に描かれた図柄、模様なども含まれる。

【0010】第2の態様では、可変表示の停止時に特定の図柄が所定の位置に表示された時、二次遊技が開始される。

【0011】第3の態様では、可変表示装置は複数の図柄を縦方向に移動表示する変動表示部を横方向に複数並列配置して構成され、表示手段は、各変動表示部の停止時の図柄表示位置に対応した複数の升目を表示する表示画面を有する。

【0012】第4の態様では、可変表示装置は、複数の図柄を表示する複数の表示部を横方向に並列配置して構成され、表示手段は、複数の表示部の各々の位置に対応して横方向に並列配置された複数の升目を一組とし、その組を縦方向に複数配置して構成された升目を表示する表示画面を有する。

【0013】第5の態様では、表示手段は、二次遊技の開始後、可変表示の停止時に所定の図柄が出現する毎に、その所定の図柄と同じシンボル画像を上記表示画面における当該図柄の停止表示位置に対応した升目の中に

表示し、この升目の中がすでにシンボル画像が表示されている時は新たに表示しない。

【0014】第6の態様では、所定の図柄は複数の図柄の中で定めたとする。

【0015】第7の態様では、上記のように所定の図柄と同じシンボル画像を表示する表示画面が所定の終了条件を満たした時、遊技者に利益を与えることとする。

【0016】第8の態様では、遊技者に与えられる利益は上記所定の図柄の種類によって異なるものとする。

【0017】第9の態様では、上記所定の終了条件は、表示画面上の予め定められた升目が所定のシンボル画像で埋まった状態である。

【0018】第10の態様では、上記表示画面が所定の終了条件を満たした後、制御手段により表示画面を初期画面に戻すリセット処理を行う。このリセット処理には、表示画面上の升目を埋めたシンボル画像を全て消去する全消去処理、或いは全消去処理後に任意の升目にシンボル画像を表示する初期条件設定処理がある。

【0019】

【作用及び効果】本発明の第1の態様によれば、遊技時には、制御手段が可変表示装置の可変表示を制御する。そして、可変表示の停止時に表示される図柄により、遊技結果が入賞あるいは非入賞（いわゆる「ハズレ」）となって現れる。表示手段では、このような可変表示装置による通常の遊技とは別の二次遊技に必要な表示を行うが、その表示は可変表示の停止時の表示に対応して決定される。従って、遊技者にとっては、可変表示装置での遊技の他に二次遊技の機会が与えられることに加えて、通常遊技の結果がハズレであっても、その結果が二次遊技を開始するものであれば、利益獲得を期待できる。

【0020】第2の態様によれば、可変表示の停止時に特定の図柄が所定の位置に表示された時、二次遊技を開始するので、遊技者は、可変表示装置における通常の遊技が利益を獲得できる状態にならないと予測されるときは、二次遊技に期待して、特定の図柄が停止するように可変表示を注目するようになる。また、遊技場側にとっても、特定の図柄の出現頻度の調整により、二次遊技の行われる頻度を容易に調整できる。

【0021】第3の態様によれば、可変表示装置は、横方向に並列配置した複数の変動表示部を有し、表示手段は各変動表示部の停止時の図柄表示位置に対応した複数の升目を表示する表示画面を構成し、第4の態様によれば、可変表示装置は、複数の図柄を横方向に並列配置して表示する複数の表示部を有し、表示手段は、複数の表示部の各々の位置に対応して横方向に並列配置された複数の升目を一組とし、その組を縦方向に複数配置した升目を表示する表示画面を構成しているため、可変表示装置での遊技結果に対応した二次遊技が可能となる。

【0022】第5の態様によれば、二次遊技が開始されると、可変表示の停止時に所定の図柄が出現する毎に、

その所定の図柄と同じ図柄のシンボル画像が、可変表示装置における所定の図柄の停止表示位置に対応した表示画面の升目の中に表示されるので、可変表示装置による通常遊技の結果が二次遊技に反映されと共に、通常遊技の結果が利益の得られる結果であるかないかは別に、所定の図柄が表示されていば表示手段における二次遊技が進行する。このため、可変表示装置における通常遊技で利益が得られない結果が続いたとしても、二次遊技を開始させる所定の図柄の表示に注目することにより、全体として、遊技者の遊技に対する意欲が損われずに済む。また、二次遊技が進行して利益の得られる状態が近くなると、通常遊技において所定の図柄の出現を期待するので、停止図柄に対する期待感が高まる。

【0023】第6の状態によれば、二次遊技に用いられる図柄は、通常遊技における複数の図柄の中から決められるので、1つの図柄に固定されず、種々の図柄を採用できる。これにより、遊技の内容に変化を持たせることができる。

【0024】第7の状態によれば、二次遊技の結果は、所定の図柄と同じシンボル画像を表示する表示画面が所定の終了条件を満たせば、遊技者が利益を得られる状態となるので、二次遊技の表示画面は、通常遊技における可変表示の停止時に表示される所定の図柄の履歴に関連したものと、その履歴の途中で終了する条件を適宜設定することにより、遊技者に利益を与える入賞態様を任意に定めることができる。

【0025】第8の状態によれば、上記のように二次遊技の表示画面が所定の終了条件を満たしたとき遊技者が得られる利益は図柄の種類によって異なるので、変化のある二次遊技を提供することができると共に、各図柄の出現頻度の調整により、二次遊技による利益配当を容易に調整することができる。

【0026】第9の状態によれば、所定の終了条件は、表示画面上の予め定められた升目が所定のシンボル画像で埋まった状態であるので、遊技者は、シンボル画像を表示している升目の位置やその個数から、二次遊技の結果として、遊技者にとって利益の得られるシンボル画像表示状態（二次遊技完成状態）まで近いかどうかを容易に見極めることができる。

【0027】第10の状態によれば、二次遊技の表示画面が所定の終了条件を満たした後、制御手段は表示画面を初期画面に戻すリセット処理を行う。このリセット処理が、表示画面上の升目を埋めた画像を全て消去する全消去処理の場合、遊技者は、上記二次遊技完成状態になるまで近いことがわかる。

【0028】上記リセット処理が、全消去処理後、任意の升目にシンボル画像を表示する初期条件設定処理である場合は、例えば、初期画面が二次遊技完成状態に近い場合（高条件画面）、遊技者にとっては有利な状態であるため、二次遊技による利益の払出しがされた後であっ

ても、次の利益獲得に期待を持続できる。

【0029】上記リセット処理で設定される初期画面は、画像の種類や個数、表示位置の違いで、二次遊技完成状態に近いかわいかわかる高条件、中条件、低条件の画面として予め決めておき、各条件の出現頻度を調整することにより、二次遊技の進行とその結果に変化を持たせることができる。

【0030】更に、本発明によれば、通常の遊技において可変表示時に表示される二次遊技に必要な図柄の出現頻度を調整することにより、遊技全体の入賞確率及び利益配当を容易に調整することができる。

【0031】**【発明の実施の形態】**図1は、本発明の一実施例のスロットマシンの外観を示す斜視図である。このスロットマシン1は、遊技媒体としてコイン、メダル又はトークンなどを用いて遊技する遊技機であるが、以下ではコインを用いるものとして説明する。

【0032】スロットマシン1の全体を形成しているキャビネット2の正面には、横に並んだ3つの表示窓3L、3C、3Rが設けられ、各表示窓の中央（入賞ライン14上）及び上下のいずれかの位置に種々の図柄（シンボル）が表示される（図8～図10参照）。これらの図柄は、図2に示すように、表示窓3L、3C、3Rに対応してキャビネット2の内部に配置した3つの回転リール4L、4C、4Rの円周面を形成するシートの表面に描かれている。図2の例では、各シート表面の長さ方向に2個の位置が設定され、奇数の位置に後述の「トリガシンボル」となる“\$”、入賞図柄の組合せを構成する“7”、その他のシンボルが配置されると共に、偶数の位置は「blank」（空白）となっている。

【0033】このようなシートを円周面に巻いた回転リールは、本発明の遊技機における可変表示装置を構成する変動表示部材の一例の機械的変動表示手段である。変動表示部材の他の例としては、CRTや液晶の表示画面に種々の図柄や画像を表示する電気的変動表示手段がある。

【0034】上記キャビネット2の側面部には、遊技者の操作により上記リールを回転させるためのスタートレバー5が所定の角度範囲で回転自在に取り付けられている。

【0035】キャビネット2の正面部の表示窓の下方中央には、本発明における表示手段の一例としての液晶表示器6が配置されている。この液晶表示器6は、図7に示すように、縦横のラインで9個の升目を形成した表示画面6aを表示する。各升目は、液晶表示器6の上部に設けられた表示窓3L、3C、3Rを正面から見たとき、各リール4L、4C、4Rの停止時に表示される、二次遊技用の図柄（トリガシンボル又は他の特定のシンボル）の表示位置に対応して、その図柄と同じシンボル画像を表示するように配置されている。

【0036】液晶表示器6の下方には、遊技媒体であるコイン(或いはメダル)を入れるコイン投入口7、上記スタートレバー5の操作とは別に押しボタン操作で前記リールを始動するためのスピンスイッチ8、1回の押しボタン操作により、クレジットされているコインのうち1枚だけをゲームに賭けるための1-BETスイッチ9、1回のゲームに賭けることが可能な最大枚数のコインを賭けるための最大BETスイッチ10、遊技者が獲得したコインのクレジット/払い出しを押しボタン操作で切り替えるC/Pスイッチ11が配置され、キャビネット2の正面下部には、C/Pスイッチ11の切換えにより正面下部のコイン払出し口12から払い出されるコインを貯めるコイン受け部13が配置されている。

【0037】図3は、スロットマシン1における遊技処理動作を制御する制御部2と、これに電気的に接続する周辺装置(アクチュエータ)とを含む回路構成を示す。

【0038】この場合、制御手段は、マイコン20を主たる構成要素とし、これに乱数サンプリングのための回路を加えて構成されている。マイコン20は、予め設定されたプログラムに従って制御動作を行うCPU21と、記憶手段であるROM22及びRAM23を含み、CPU21に、基準クロックパルスを発生するクロックパルス発生回路24及び分周器25と、サンプリングされる乱数を発生する乱数発生器26及び乱数サンプリング回路27とが接続されている。なお、乱数サンプリングのための手段として、マイコン20の内、すなわちCPU21の動作プログラム上で乱数サンプリングを実行するように構成してもよい。その場合、乱数発生器26及び乱数サンプリング回路27は省略可能であり、或いは、乱数サンプリング動作のバックアップ用として残しておくことも可能である。

【0039】マイコン20のROM22には、スロットマシンの遊技制御のほか、後述の複数の表示画像を液晶表示器6の画面に表示する処理を実行するために必要な情報やデータが格納されている。

【0040】図3の回路において、マイコン20からの制御信号により動作が制御される主要なアクチュエータとしては、前記リール4L、4C、4Rをそれぞれ回転駆動するステッピングモータ15L、15C、15Rと、遊技媒体のコインを収納するホッパー(払い出しのための駆動部を含む)30と、前述の表示画面とがあり、それぞれモータ駆動回路31、ホッパー駆動回路32、液晶駆動回路16を介してCPU21の出力端に接続されている。これらの駆動回路は、CPU21から出力される駆動指令などの制御信号を受けて、各アクチュエータの動作を制御する。

【0041】また、マイコン20が制御信号を発生するために必要な入力信号を発生する主な入力信号発生手段として、コイン投入口7に投入されたコインを検出するコインセンサ7S、スタートレバー5の操作を検出する

スタートスイッチ5S、スピンスイッチ8、1-BETスイッチ9、最大BETスイッチ10、C/Pスイッチ11、可変表示装置のリール回転検出器からのパルス信号を受けて各リールの位置を検知するための信号をCPU21へ供給するリール位置検出回路34、及び、ホッパー30から払い出されたコインを検出するコイン検出部35の計数値が指定された枚数データに達した時にコイン払出し完了を検知するための信号をCPU21へ供給する払出し完了信号回路36が、CPU21の入力端に接続されている。

【0042】図3の回路において、乱数発生器26は、所定の数値範囲に属する乱数を発生し、サンプリング回路27は、スタートレバー5が操作された後、適当なタイミングで乱数サンプリングを行う。サンプリングされた乱数は、ROM22内の記憶部に格納されている予め定められた入賞領域に属しているか否かが判定され、入賞領域に属していれば「入賞リクエスト信号」を発生する。

【0043】リール4L、4C、4Rの回転が開始された後、ステッピングモータ15L、15C、15Rの各々に供給される駆動パルスの数が計数され、その計数値はRAM23の所定エリアに書き込まれる。リール4L、4C、4Rからは各々の一回転毎にリセットパルスが得られ、これらのパルスはリール位置検出回路34を介してCPU21に入力される。CPU21は、こうして得られたリセットパルスにより、RAM23に格納した駆動パルス計数値を「0」にクリアする。これにより、RAM23内には、各リール4L、4C、4Rについて一回転の範囲内における回転位置に対応した計数値が格納される。

【0044】上記のようなリール4L、4C、4Rの回転位置と図柄とを対応づけるため、「図柄テーブル」がROM22に格納されている。ROM22には、「入賞図柄組合せテーブル」も格納されている。この入賞図柄組合せテーブルで、入賞となる図柄の組合せと、入賞のコイン配当枚数と、その入賞を表す入賞判定コードとが対応づけられる。入賞図柄組合せテーブルは、リール4L、4C、4Rの制御を行っている時、及び全リール停止後の入賞確認を行う時に参照される。更に、ROM22には、液晶表示器6に後述の第2ゲームを行うための複数の表示画像データ及びリール4L、4C、4Rにおける図柄の表示位置と合わせて表示図柄と同じ画像を表示可能にするための画像テーブルが格納されている。

【0045】図4、図5及び図6は、回転リール4L、4C、4Rにおける通常のゲーム(一次遊技)及び液晶表示器6における通常のゲームとは別に行われるゲーム(二次遊技)についての動作の処理手順を示すフロー図である。図中ST1、ST2、は、手順(ステップ)の番号を示す。

【0046】この処理は、スロットマシン1の遊技制御手段であるマイコン20のCPU21で実行されるが、

液晶表示器6のような表示手段自体が表示制御部としてのCPUを備えた場合には、そのCPUが、遊技制御手段としてのCPU21からの表示指令（例えば、入賞の種類又はハズレに対応した表示指令）に応じて表示画像を決定するようにしてもよい。

【0047】図4において、初めに遊技機（スロットマシン1）の電源がオンで、遊技者が所定の操作をする、すなわち、コイン投入口7にコインを投入し（ST1）、1-BETスイッチ9又は最大BETスイッチ10の操作後スタートレバー5又はスピンスイッチ8を操作すると（ST2）、リール4L、4C、4Rが回転して可変表示を開始する（ST3）。この時、乱数サンプリングにより抽出した乱数に基づいて入賞/非入賞の判定及び停止図柄の決定をする（ST4）。そして、「入賞リクエスト信号」が発生したかどうかを判定し（ST5）、その判定結果に応じて、回転中のリール4L、4C、4Rの停止制御を行う。すなわち、「入賞リクエスト信号」が発生したときは、入賞となる図柄組合せを表示するように停止制御を行い（ST6）、「入賞リクエスト信号」が発生していなければ、「ハズレ」となる図柄組合せを表示するように停止制御を行う（ST7）。

【0048】上記の処理において、ST3の可変表示は、CPU21がモータ駆動回路31に駆動信号を送り、ステッピングモータ15L、15C、15Rを駆動してリール4L、4C、4Rを回転することにより実現される。また、ST4の入賞判定は、適宜のタイミングで乱数発生器26から乱数をサンプリングし、抽出した乱数の値が予め定めた入賞領域に属しているか否かを判定することにより、実現される。これにより、ST6又はST7の停止制御が実現される。CPU21は、入賞と判定した場合には、入賞の種類に対応した図柄表示位置にリール4L、4C、4Rを停止制御する信号をモータ駆動回路31に送る。これにより、ST6又はST7の停止制御が実現される。CPU21は、入賞と判定した場合には、入賞の種類に対応したコイン払出し指令信号をホッパー駆動回路32に供給してホッパー30から所定個数のコインの払出しを行う（ST8）。その際、コイン検出部35は、ホッパー30から払い出されるコインの枚数を計数し、その計数値が指定された枚数データに達した時点で、払出し完了信号回路36がCPU21に払い出し完了信号を入力する。これにより、CPU21は、ホッパー駆動回路32を介してホッパー30の駆動を停止し、コインの払い出し処理を終了する。

【0049】また、CPU21は、上記入賞判定と同時に、液晶表示器6における二次遊技が開始されているかどうかの判定を行う（ST9）。ここで、二次遊技は、「トリガシンボル」として予め定めた特定図柄（例えば“S”）が表示窓3L、3C、3Rの中央の入賞ライン14上に出現した時、開始されるので、既に入賞ライン14上にトリガシンボルが停止表示されたことがあるな

らば、二次遊技が開始されていると判定される。

【0050】上記ST9の判定で二次遊技が開始されていない場合は、図5に示すように、CPU21は、表示窓3L、3C、3Rの中央の入賞ライン14上にトリガシンボルを停止表示するかどうかを判定する（ST10）。この判定は、前記ST4の入賞判定で決定された停止図柄による。その結果“NO”であれば、上記ST9の判定に戻る。従って、下記のように入賞ライン14上にトリガシンボルを停止表示するまで二次遊技は開始されない。

【0051】一方、ST10において入賞ライン14上にトリガシンボルを停止表示すると判定したときは、「二次遊技開始リクエスト信号」を発生し（ST11）、表示窓3L、3C、3Rのいずれかに入賞ライン14上にトリガシンボル（例えば“S”）を停止表示すると共に、液晶表示器6の表示画面6aにおいて上記トリガシンボルの表示位置に対応した位置の升目、にそのトリガシンボル（或いは他の特定のシンボルでもよい）と同じシンボル画像を表示する。これにより、液晶表示器6における二次遊技が開始された状態となる（ST12）。その後、上記ST9の判定に戻る。

【0052】上記ST9の判定で二次遊技が開始されている場合は、図6に示すように、表示窓3L、3C、3R内の中央、上下のいずれかの位置に特定図柄（トリガシンボル或いは他の特定のシンボル）を停止表示するかどうかの判定を行う（ST20）。そして、“NO”であれば、上記ST9の判定に戻る。

【0053】一方、ST20において表示窓3L、3C、3R内に特定図柄を表示すると判定したときは、その特定図柄の停止表示位置に対応する、液晶表示器6の表示画面6a内の升目が、その中にシンボル画像を表示していない（空白になっている）かどうかの判定を行い（ST21）、既にシンボル画像が表示されている（空白でない）時は、上記ST9の判定に戻る。しかし、対応する升目が空白であるときは、表示窓3L、3C、3R内に特定図柄が停止表示された時点で、対応する升目にシンボル画像を表示する（ST22）。

【0054】次に、二次遊技終了条件が達成されたかどうかを判定する（ST23）。二次遊技終了条件としては、例えば、次の条件のいずれか或いは全部を採用してもよい。

【0055】1. 表示画面6aにおける9個の升目が全てシンボル画像で埋まった状態（二次遊技画面の完成状態）になること。

【0056】2. 9個の升目のうち特定の複数の升目の中に、特定のシンボル画像が表示されること。

【0057】3. 9個の升目のうち特定の行（横方向）、列（縦方向）又は斜め方向に並ぶ3個の升目の中に、特定のシンボル画像が表示されること。この条件を採用した場合は、二次遊技は「ビンゴゲーム」と同様の

ゲームとなる。

【0058】上記ST23の判定で“YES”であれば、コイン払出し指令信号をホッパー駆動回路32に供給してホッパー30から所定枚数のコインの払出しを行う(ST24)。ここで払い出されるコインの枚数は、一定数に固定してもよいが、上記1～3.の条件によって異ならせる(例えば、上記1.の条件が達成された時、最大枚数100)と、二次遊技の興趣が更に高められる。

【0059】上記ST23の判定で“NO”であれば、図4のST9の判定に戻る。

【0060】コイン払い出し後、CPU21は、表示画面6aについてリセット処理を行うことにより、次に行われるゲームに備える。すなわち、表示画面6aの初期状態として予め用意した複数の初期画面(リセット画面)の中から任意に選択する「リセット画面選択処理」を行い(ST25)、表示画面6aを選択したリセット画面に切り換える「リセット処理」を行って(ST26)、遊技終了となる。

【0061】上記リセット画面選択処理では、乱数サンプリングにより抽出した乱数の値に基づいて予め定められたリセット画面のうちのリセット画面にするかを決定する。また、上記リセット処理は遊技者の手動選択でも行えるように、別途操作部を設けてもよい。

【0062】上記リセット画面としては、例えば図11に示すように、(A)オールクリア画面、(B)高条件画面、(C)中条件画面、(D)低条件画面など、複数種類の画面が用意され、ROM22の中に格納されている。この例では、(A)オールクリア画面は、表示画面6aの升目の中に全く画像を表示しない状態である。

(B)高条件画面は、特定図柄と同じシンボル画像を表示画面6aの升目の中に多く表示し、9個の升目の中が全て埋まるまで近い状態であり、遊技者にとっては非常に有利である。(C)中条件画面は、9個の升目の中が全てシンボル画像で埋まるまで高条件画面よりも遠い状態である。(D)低条件画面は、9個の升目の中が全てシンボル画像で埋まるまで更に遠い状態であるが、上記オールクリア画面よりは有利であることを示す。

【0063】これら種々のリセット画面を任意に表示することにより、二次遊技において遊技状態が完成した後も、遊技者は次のゲームを開始するに当たって、有利なリセット画面が表示されるように期待感を抱くことができる。

【0064】次に、前述のように表示窓3L、3C、3Rに表示される図柄と、液晶表示器6の表示画面6aの升目の中に表示されるシンボル画像について説明する。

【0065】図7は、3つの表示窓内のリール4L、4C、4Rが回転中、表示画面6aの升目の中には全くシンボル画像を表示していない状態を示す。

【0066】図8は、3つのリール4L、4C、4Rが回転を停止した時の状態を示す。この時、トリガシンボ

ルとして、例えば特定図柄“\$”を定めていたとすれば、左側の表示窓3L内において特定図柄“\$”が入賞ライン14上に停止したので、前述のように二次遊技の開始が開始されると共に、表示画面6aの左中段の升目の中に“\$”のシンボル画像が表示される。

【0067】図9は、二次遊技開始後、3つのリール4L、4C、4Rが回転を停止した時、特定図柄“\$”が左右の表示窓3L、3Rに表示された状態を示す。詳しくは、特定図柄“\$”は、左側の表示窓3L内では上方位置に停止し、右側の表示窓3R内では下方位置に停止している。この時、表示画面6aでは、既に左中段の升目の中に“\$”が表示されているのに加えて、左右の表示窓3L、3Rにおける特定図柄“\$”の表示位置に対応した升目の中に“\$”のシンボル画像が表示される。

【0068】図10は、図9の表示後に再び3つのリール4L、4C、4Rが停止した時、左側の表示窓3L内の中央位置に再び“\$”が表示された状態を示す。この時、表示画面6aでは、既に左中段の升目の中に“\$”が表示されているので、その表示は変わらない。

【0069】このように、表示画面6aでは、表示窓3L、3C、3R内に特定図柄“\$”が停止表示される毎に、その表示位置に対応した升目の中にシンボル画像“\$”が表示される。特に、図10の表示画面では、二次遊技の終了条件を「ビンゴゲーム」とするならば、真ん中の升目の中にシンボル画像“\$”が表示されると、「ビンゴゲーム」の上りとなり、遊技者に所定枚数のコインが払い出される。

【0070】ここで、二次遊技用の図柄として、図8～図10に示す“\$”のような特定図柄を別途用意するのではなく、従来の遊技に使用している図柄、例えば図12に示すように“7”等のシンボルを利用して二次遊技を行ってもよい。

【0071】また、二次遊技を1種類の図柄だけで行うのではなく、数種類の図柄を用いて行ってもよい。例えば図13に示すように、二次遊技用の図柄として“PT1”、“7”、“PT2”、“3BAR”、“PT3”、“2BAR”、“PT4”の4種類の図柄を予め定め、図柄の種類によって利益配当が異なるようにする。すなわち、表示画面6aの升目がシンボル画像で埋まったときに払い出されるコインの枚数を、“\$”、“PT1”の場合は100枚、“7”、“PT2”の場合は50枚、“3BAR”、“PT3”の場合は10枚、“2BAR”、“PT4”の場合は5枚というように設定できる。

【0072】図14及び図15は、このような複数の図柄を用いた場合の動作処理手順を示す。この処理手順は、前述した図3のST9において二次遊技が開始されているかどうかの判定後、図9及び図6とは一部異なる処理として実行される。

【0073】具体的には、上記ST9で二次遊技が開始されていないと判定された場合は、図14に示すよう

に、まず、表示窓3L、3C、3Rの中央の入賞ライン14上には、二次遊技開始のトリガシンボルとして予め決定しておいた特定図柄（例えば、図柄“\$”）を表示するかどうかを判定し（ST30）、“YES”のとき、二次遊技で使用する図柄の選択処理が行われる（ST31）。ここで、二次遊技で使用する図柄とは、上記の図13に示した“\$”（PT1）、“7”（PT2）、“3BAR”（PT3）、“2BAR”（PT4）のような予め二次遊技用の図柄として定められた図柄で、この中から使用する図柄を決定する。二次遊技で使用する図柄を決定したら、“二次遊技開始リクエスト信号”を発生し（ST32）、表示窓3L、3C、3Rのいずれかの入賞ライン14上にトリガシンボルを停止表示すると共に、液晶表示器6の表示画面6a上でトリガシンボルの表示位置に対応した升目に、そのトリガシンボルと同じシンボル画像を表示する。これにより、液晶表示器6における二次遊技が開始された状態となる（ST33）。その後、図4のST9の判定に戻る。

【0074】一方、上記ST9で二次遊技が開始されていると判定された場合は、図15に示すように、ST40において、表示窓3L、3C、3Rに上記ST31で選択した二次遊技用図柄を表示するかどうかの判定を行う。そして“NO”であれば、上記ST9の判定に戻る。

【0075】一方、ST40において表示窓3L、3C、3R内に二次遊技用図柄を表示すると判定したときは、その図柄に対応する、液晶表示器6の表示画面6a内の升目表示部において、図柄の停止表示位置に対応する升目がシンボル画像を表示していない（空白になっている）かどうかの判定を行い（ST41）、既にシンボル画像が表示されている（空白でない）時は、上記ST9の判定に戻る。しかし、対応する升目が空白であるときは、表示窓3L、3C、3R内に二次遊技用図柄が停止表示された時点で、対応する位置の升目にシンボル画像を表示する（ST42）。

【0076】次に、二次遊技終了条件が達成されたかどうかを判定する（ST43）。二次遊技終了条件は、前記1～3.のような条件とする。

【0077】上記ST43の判定で“YES”であれば、コイン払出し指令信号をホッパー駆動回路32に供給してホッパー30から所定枚数のコインの払出しを行う（ST44）。ここで払い出されるコインの枚数は、選択した二次遊技用図柄の種類や上記二次遊技終了条件によって異ならせるものとする。

【0078】上記ST43の判定で“NO”であれば、図4のST9の判定に戻る。

【0079】コイン払い出し後、CPU21は、表示画面6aについてリセット処理を行うことにより、次に行われるゲームに備える。すなわち、表示画面6aの初期状態として予め用意した複数の「リセット画面」の中か

ら任意に選択する「リセット画面選択処理」を行い（ST45）、表示画面6aを選択したリセット画面に切り換える「リセット処理」を行って（ST46）、遊技終了となる。

【0080】リセット画面は、選択した二次遊技用図柄の種類により、前述の図11（A）オールドリッパ画面、（B）高条件画面、（C）中条件画面、（D）低条件画面等のいずれかに決定する。

【0081】なお、上記のように数種類の図柄を用いて二次遊技を行う場合において、二次遊技開始後であっても、ゲーム毎に二次遊技用図柄選択処理（図14のST31における処理と同一）を図15のST40における処理の前に行うようにしてもよい。この場合遊技者は、どの種類のシンボル画像が表示画面6a内の升目表示部をより多く占拠するかについて興味を引き付けられ、二次遊技の終了まで注目するようになる。

【0082】また、上記のように数種類の図柄を二次遊技用の図柄とする場合において、複数の表示画面（例えば、図13の4種の異なる図柄毎に升目表示部（PT1～4））を設けることにより、複数の図柄（トリガシンボル）に対する二次遊技を同時に進行するようにしてもよい。

【0083】この場合、トリガシンボルが入賞ライン上に停止してから二次遊技を開始可能にする必要はなく、とにかく所定の図柄が表示されたら、升目を埋めるようにする。これにより遊技をしていない第三者にとっては、升目上のシンボル画像の埋まり状態を見れば、当たりへの期待度があとどのくらいであるかが、一目瞭然となる。

【0084】上記実施例は、スロットマシンであるが、本発明は、可変表示装置でボーカーク遊技を行うビデオホーカー（ゲーム機）にも適用できる。図16～図18は、その遊技表示画面の例を示す。

【0085】図16は、可変表示装置のビデオ画面37上の横方向に並列配置された5つのカード表示部（ ）～（ ）に5種類のゲームカードを表示している。そして、ビデオ画面37の下側には、本発明における表示手段の一例の液晶表示器6が配置され、縦横のラインで25個の升目を形成した表示画面6bを表示する。この升目5個からなる横1列の表示部分はカード表示部（ ）～（ ）に対応しており、二次遊技用の図柄（トリガシンボル又は他の特定のシンボル）を有するゲームカードの表示位置に対応して、その図柄と同じシンボル画像を表示する。この升目5個からなる横一列の組を縦に複数配置して5組（（a）～（e））の升目で表示画面6bを形成している。

【0086】図16においては、二次遊技用の図柄を有するゲームカードをカード表示部（ ）～（ ）に表示しておらず（通常のボーカークゲーム用のゲームカードを表示している）、従って、表示画面6b上には何も表示さ

れていない。

【0087】図17では、カード表示部()に二次遊技用の図柄(ここでは、「星」図柄)を有するゲームカードを表示し、表示画面6b上には、これに対応して、正面から見て左から2番目の升目に二次遊技用の図柄と同じシンボル画像「星」を表示している。

【0088】その後のゲームで、再び二次遊技用の図柄を表示すれば、これに対応したシンボル画像を表示する升目は一つ下(2行目)の組(b)に移行する。図18では、カード表示部()及び()に二次遊技用の図柄「星」を有するゲームカードを表示しており、この表示に対応して表示画面6b上の2行目の組(b)の正面から見て左から3番目及び4番目の升目にシンボル画像「星」を表示している。

【0089】その後、5行目の組(c)にシンボル画像「星」を表示した時点の表示画面6bの表示状態で入賞を判別してゲームを終了するか、若しくはその後表示画面6b上の表示画像を残したまま再度1行目の組(a)から二次遊技を行うようにしてもよい。

【0090】ここで前者の場合の二次遊技の終了条件を「ビンゴゲーム」とするならば、縦、横又は斜め方向のいずれか1列にシンボル画像「星」が5個揃えば「ビンゴゲーム」の上りとなり、遊技者に所定枚数のコインを払い出し、上記スロットマシンと同様にリセット処理を行う。

【0091】後者の場合、上記スロットマシンと同様、既にシンボル画像「星」を表示している升目に対応するカード表示部に、再び図柄「星」を有するゲームカードが表示されてもその升目の表示は変わらず、全ての升目が埋まれば入賞とし、二次遊技を終了してリセット処理を行う。もちろん「ビンゴゲーム」と併用してもよい。

【0092】また、二次遊技の図柄に通常のボーダーゲーム用の図柄(トランプのスベード等)を用いてもよい。

【0093】以上のように、可変表示による通常の遊技とは別に設けた表示画面における二次遊技は常に、可変表示が停止した時の表示状態がそのまま反映されるので、遊技全体としての興味が高まると共に表示画面での二次遊技は、可変表示において過去に表示された図柄の履歴表示と共に進行することも可能となり、遊技完成までが近いかなさを知る事ができる。また、どの図柄を表示すれば遊技が完成するのかが一目で分かるので、非常に高い期待感と緊張感を持って遊技に臨むことができる。

【図面の簡単な説明】

【図1】本発明の実施例のスロットマシンの外観を示す斜視図。

【図2】可変表示装置を構成する回転リールの円周面に配置されるリールシート上の図柄配置の例を示す図。

【図3】図1のスロットマシンに用いられる回路構成を

示すブロック図。

【図4】実施例の制御動作の一部を示すフローチャート。

【図5】二次遊技が開始されていない場合の制御動作を示す、図4に続くフローチャート。

【図6】二次遊技が開始されている場合の制御動作を示す、図4に続くフローチャート。

【図7】可変表示開始後の表示状態と液晶表示器の表示シンボル画像を示す図。

【図8】可変表示停止時の表示状態と液晶表示器の表示シンボル画像を示す図。

【図9】二次遊技開始後における可変表示停止時の表示状態と、液晶表示器の表示画面にシンボル画像「S」を表示したところを示す図。

【図10】二次遊技開始後における可変表示停止時の表示状態と、液晶表示器の表示画面に図9とは別の位置にシンボル画像「S」を表示したところを示す図。

【図11】液晶表示器の表示画面におけるリセット画面の例を示す図。

【図12】二次遊技開始後における可変表示停止時の表示状態と、液晶表示器の表示画面にシンボル画像「7」を表示したところを示す図。

【図13】複数種類のシンボル画像を用いて二次遊技を行う場合、液晶表示器の表示画面における各シンボル画像による表示例を示す図。

【図14】複数種類のシンボル画像を用いて二次遊技を行う場合、二次遊技が開始されていないときの制御動作を示す、図4に続くフローチャート。

【図15】複数種類のシンボル画像を用いて二次遊技を行う場合、二次遊技開始後の制御動作を示す、図4に続くフローチャート。

【図16】別の実施例のビデオボーダーにおける可変表示装置と液晶表示器を示す図。

【図17】ビデオボーダーにおける二次遊技開始後の可変表示停止時の表示状態と、液晶表示器の表示画面にシンボル画像「星」を表示したところを示す図。

【図18】ビデオボーダーにおける二次遊技開始後の可変表示停止時の表示状態と、液晶表示器の表示画面に図17とは別の位置にシンボル画像「星」を表示したところを示す図。

【符号の説明】

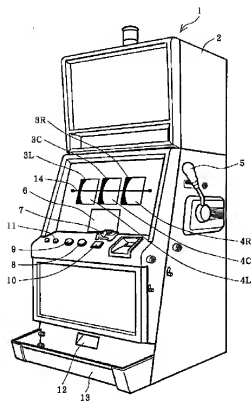
1…スロットマシン、2…キャビネット、3L、3C、3R…表示窓、4L、4C、4R…リール、5…スタートレバー、6…液晶表示器、7…コイン投入口、8…スピンスイッチ、9…1-BETスイッチ、10…最大BETスイッチ、11…C/Pスイッチ、12…コイン払出口、13…コイン受け部、14…入賞ライン、15L、15C、15R…ステッピングモータ、16…液晶駆動回路、20…マイコン、21…CPU、22…ROM、23…RAM、24…クロックパルス発生回

路、25…分周器、26…乱数発生器、27…乱数サンプリング回路、30…ホッパー、31…モータ駆動回路、32…ホッパー駆動回路、34…リール位置検出回

路、35…コイン検出部、36…払出し完了信号回路、37…ビデオ画面。

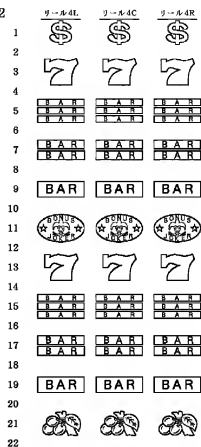
【図1】

FIG. 1



【図2】

FIG. 2



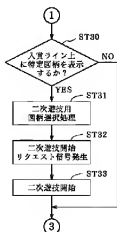
【図5】

FIG. 5

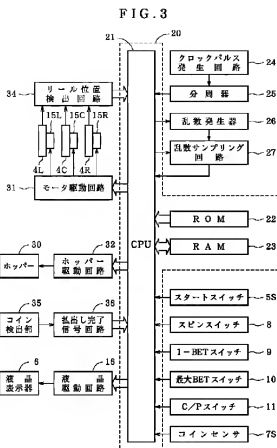


【図14】

FIG. 14

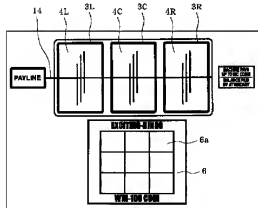


【図3】



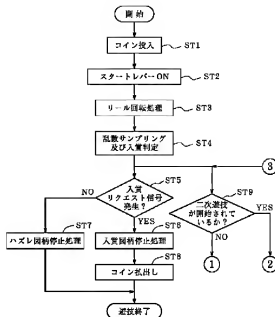
【図7】

FIG. 7



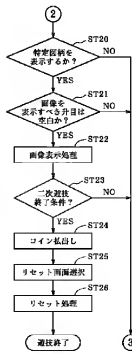
【図4】

FIG. 4



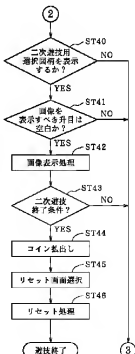
【図6】

FIG. 6



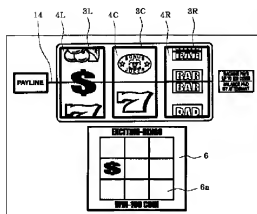
【図15】

FIG. 15



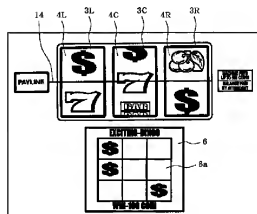
【図8】

FIG. 8



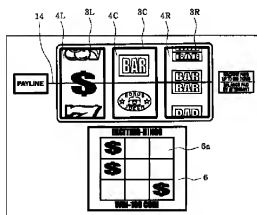
【図9】

FIG. 9



【図10】

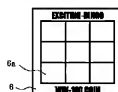
FIG. 10



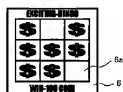
【図11】

FIG. 11

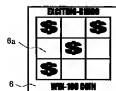
(A) オールクリア画面



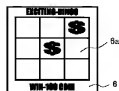
(B) "高" 条件画面



(C) "中" 条件画面

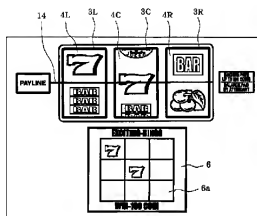


(D) "低" 条件画面



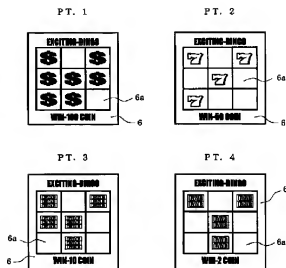
【図12】

FIG. 12



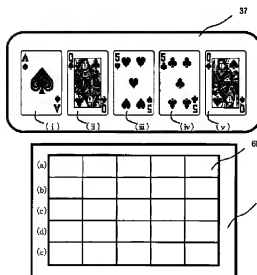
【図13】

FIG. 13



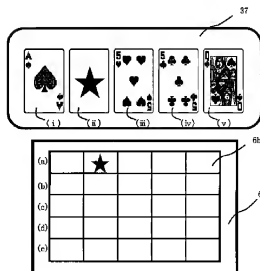
【図16】

FIG. 16



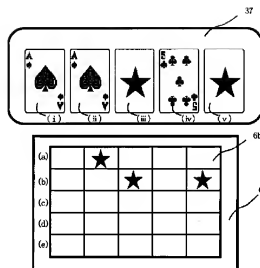
【図17】

FIG. 17



【図18】

FIG. 18



【手続補正書】

【提出日】平成11年3月1日

【手続補正1】

【補正対象書類名】明細書

【補正対象項目名】0085

【補正方法】変更

【補正内容】

【0085】図16は、可変表示装置のビデオ画面37上の横方向に並列配置された5つのカード表示部(i)～(v)に5種類のゲームカードを表示している。そして、ビデオ画面37の下側には、本発明における表示手段の一例の液晶表示器6が配置され、縦横のラインで25個の升目を形成した表示画面6bを表示する。この升目5個からなる横1列の表示部分はカード表示部(i)～(v)に対応しており、二次遊技用の図柄（トリガシンボル又は他の特定のシンボル）を有するゲームカードの表示位置に対応して、その図柄と同じシンボル画像を表示する。この升目5個からなる横一列の組を縦に複数配置して5組（(a)～(e)）の升目で表示画面6bを形成している。

【手続補正2】

【補正対象書類名】明細書

【補正対象項目名】0086

【補正方法】変更

【補正内容】

【0086】図16においては、二次遊技用の図柄を有するゲームカードをカード表示部(i)～(v)に表示しておらず（通常のポーカーゲーム用のゲームカードを表示している）、従って、表示画面6b上には何も表示されていない。

【手続補正3】

【補正対象書類名】明細書

【補正対象項目名】0087

【補正方法】変更

【補正内容】

【0087】図17では、カード表示部(ii)に二次遊技用の図柄（ここでは、“星”図柄）を有するゲームカードを表示し、表示画面6b上には、これに対応して、正面から見て左から2番目の升目に二次遊技用の図柄と同じシンボル画像“星”を表示している。

【手続補正4】

【補正対象書類名】明細書

【補正対象項目名】0088

【補正方法】変更

【補正内容】

【0088】その後のゲームで、再び二次遊技用の図柄を表示すれば、これに対応したシンボル画像を表示する升目は一つ下（2行目）の組(b)に移行する。図18では、カード表示部(iii)及び(v)に二次遊技用の図

柄“星”を有するゲームカードを表示しており、この表示に対応して表示画面6b上の2行目の組(b)の正面

から見て左から3番目及び5番目の列目にシンボル画像“星”を表示している。